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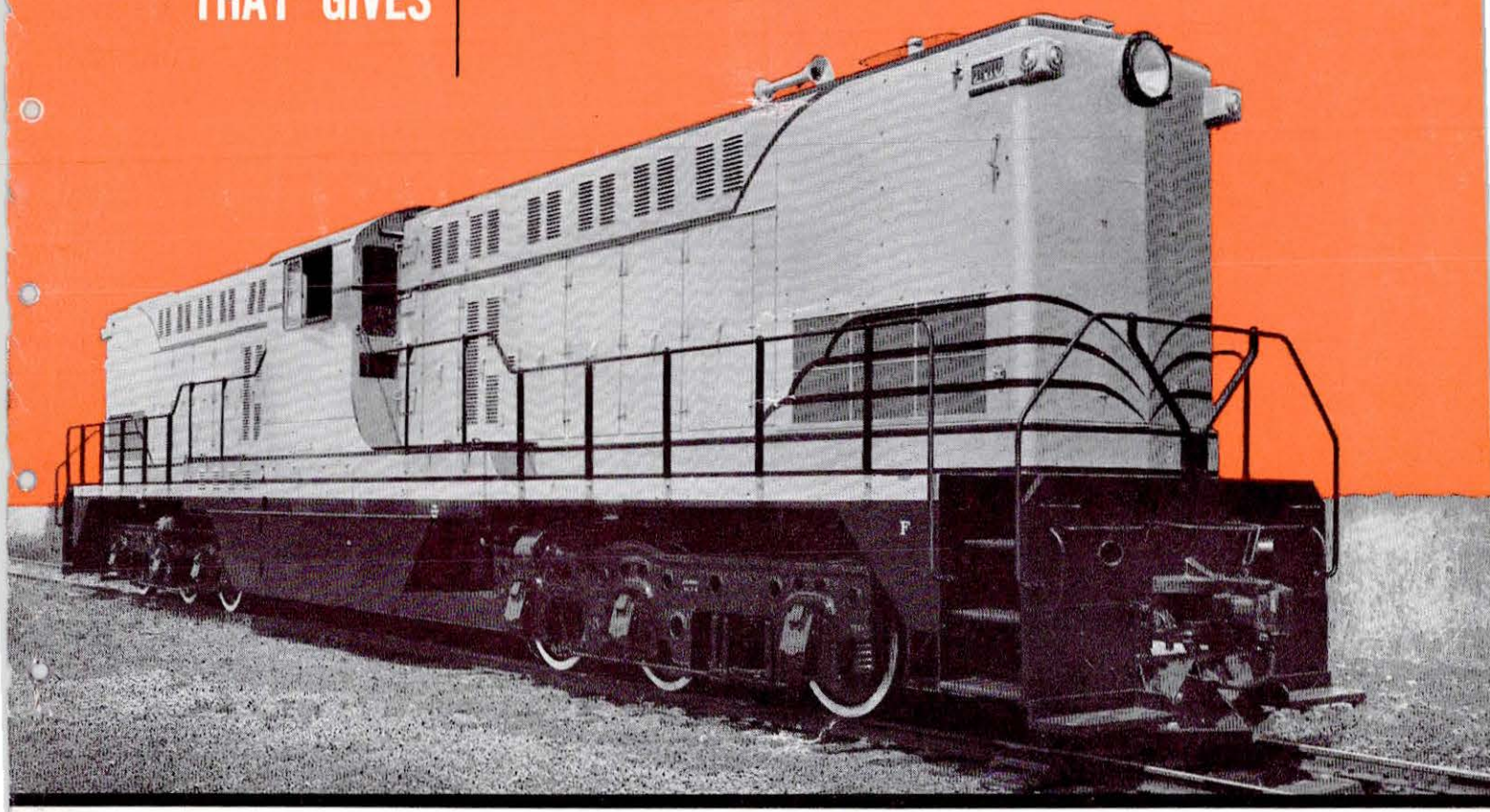

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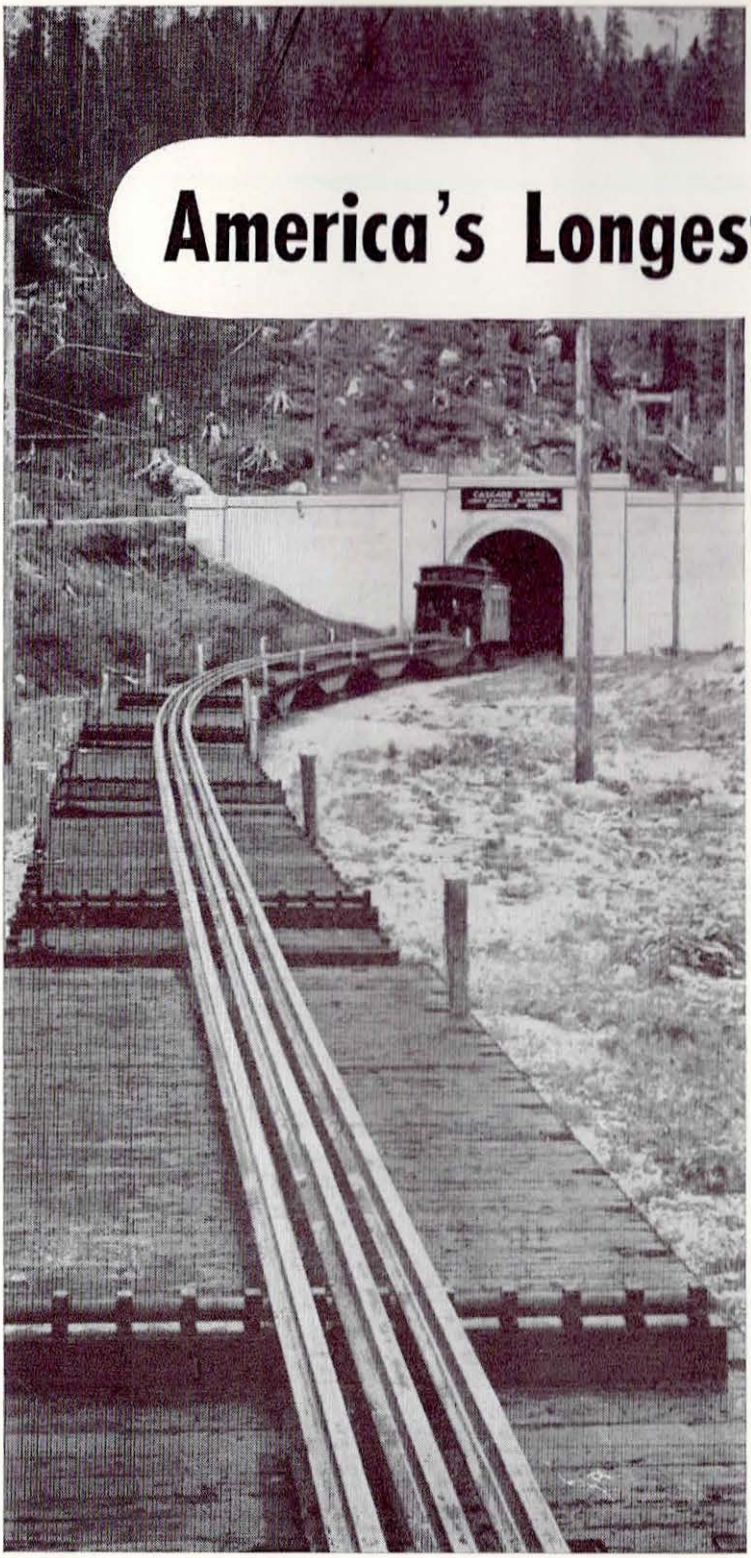

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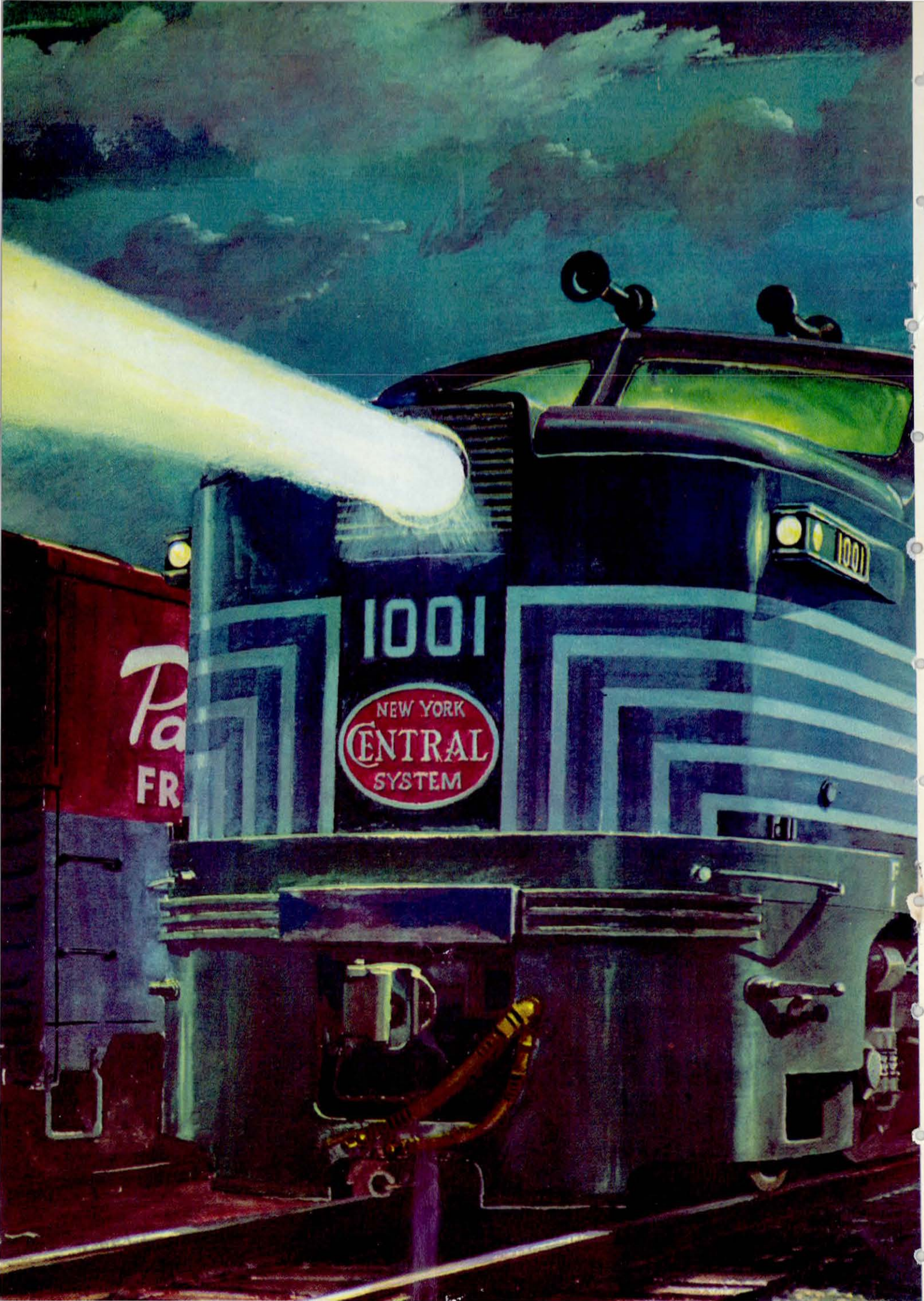
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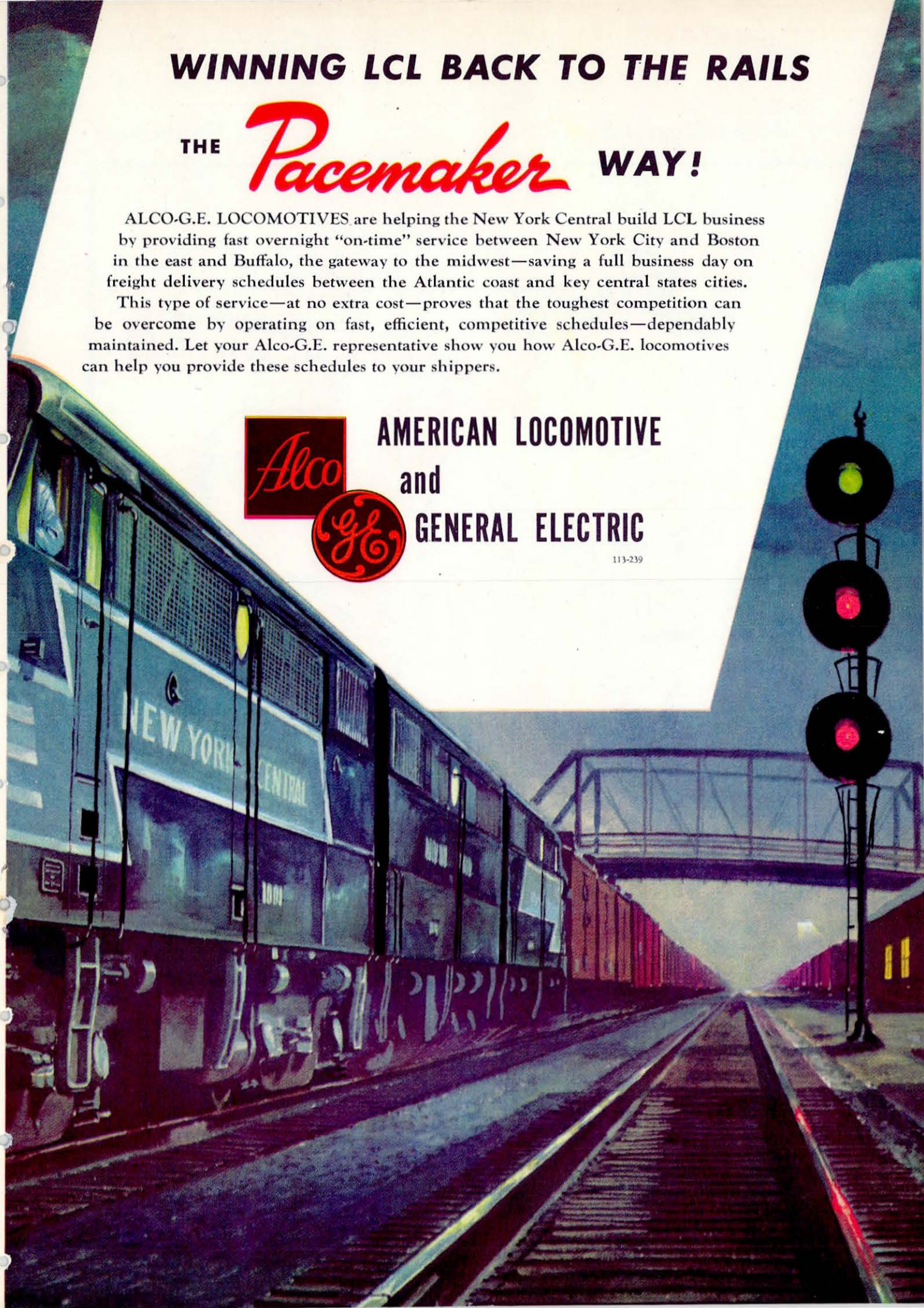

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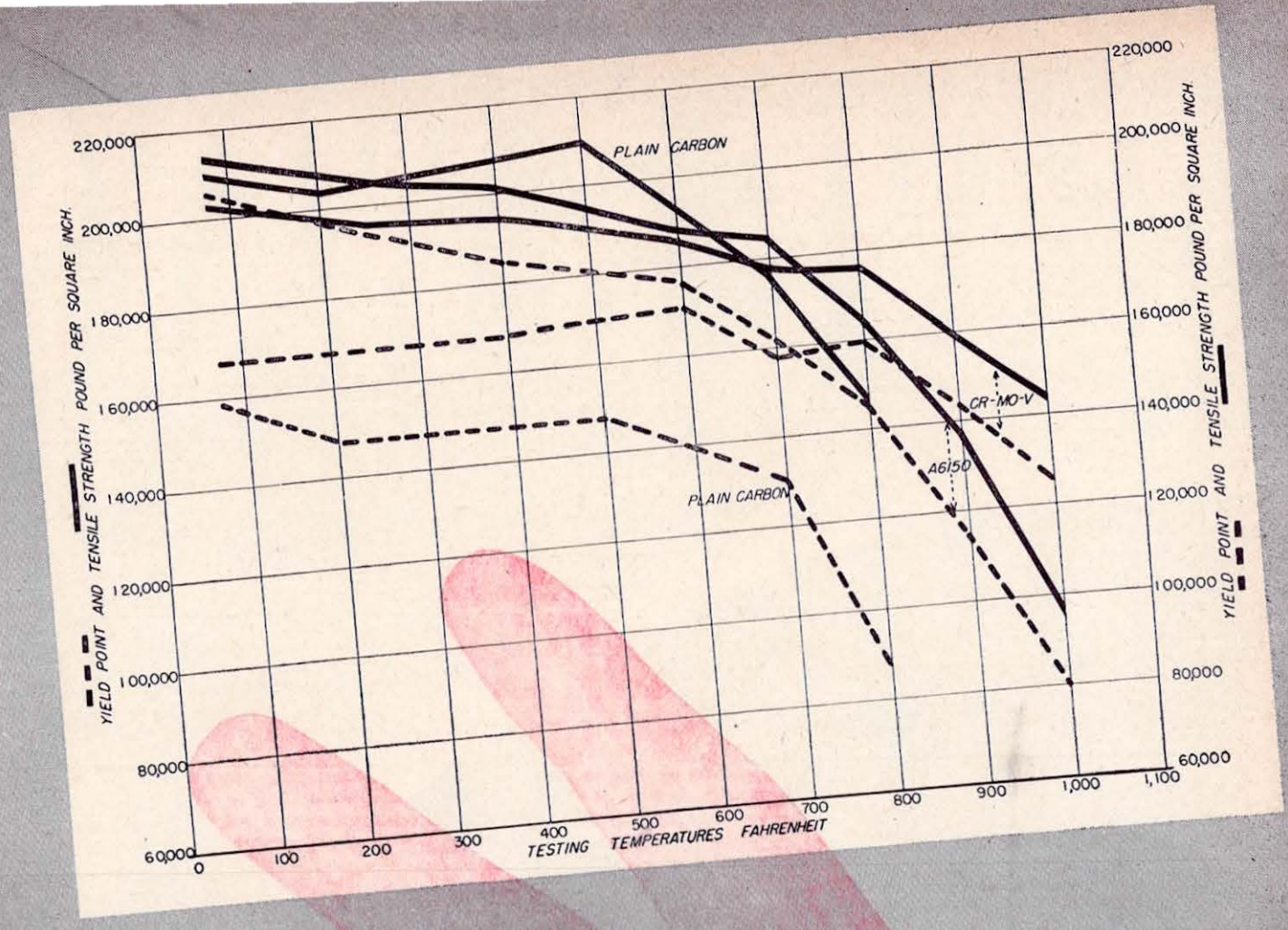

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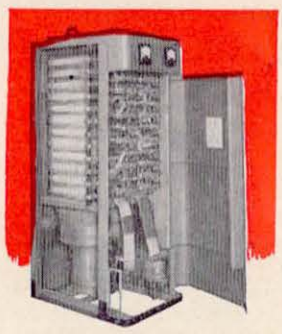

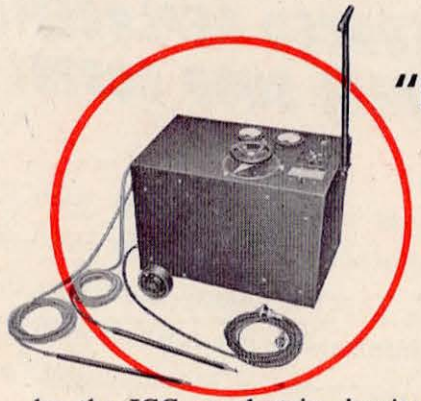

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GENERAL ELECTRIC

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News and notes about
GENERAL ELECTRIC products
for the railroad industry

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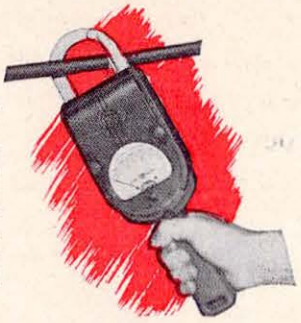
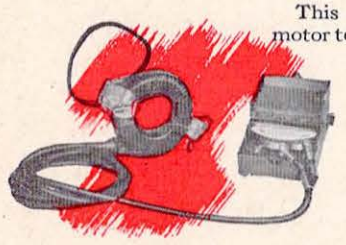
Hook-on Volt-Ammeter, type AK-1



This compact, portable volt-ammeter will quickly and accurately measure a-c current and voltage. Current can be read instantaneously on both insulated and non-insulated conductors. To measure voltage, merely connect leads to two convenient terminals on the instrument. Designed for one hand operation, it is simple, and easy to use. ***Check Bulletin GEA-2950.***

A-C Indicating Ammeter, type AP-9



This portable ammeter is ideal for motor testing, maintenance, and trouble shooting. Accuracy of measurement is obtained by a light-weight moving element, magnetic shield, and high torque. Accurate readings are made possible by a knife-edge pointer and a mirror scale. Rugged Textolite case stands hard usage. A-c voltmeters also available. ***Check Bulletin GEC-373.***

D-C Voltmeter, type DP-9

This d-c portable voltmeter, designed for high accuracy and dependability, is particularly suitable for equipment maintenance, trouble shooting, battery testing and general utility use. Magnetic shielding reduces errors caused by stray magnetic fields. Dust-tight, Textolite case prevents damage and permits dependable operation under conditions that might ruin ordinary portable instruments. D-c ammeters also available. ***Check Bulletin GEC-1784.***

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Here's another piece of valuable testing equipment—the G-E recording vibrometer. By using the vibrometer to check bearings, shafts, etc. on high speed rotating parts, the source of vibration can be quickly determined and the life of the equipment increased. It measures and records frequency, displacement, and wave shape in both steady-state and transient mechanical vibrations. Inkless, automatic recording provides a permanent record for further vibration analysis and eliminates manual tabulation of data. ***Check Bulletin GEC-310 for complete details.***

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( ) GEC-320—Portable Dynamic Balancing Equipment
( ) GEC-310—Recording Vibrometer
( ) GEC-372—Type AF-2 A-C Load Visualizer
( ) GEA-2950—Hook-On Volt-Ammeter, Type AK-1
( ) GEC-373—A-C Indicating Ammeter, Type AP-9
( ) GEA-1784—D-C Voltmeter, Type DP-9

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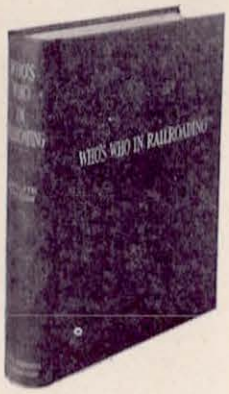
New Railroad Books

WHO'S WHO IN RAILROADING



The 1949 edition describes the business careers of more than 6,100 of the leaders in the railroad industry. Besides railroad officials there are included railway supply company officials, members of federal and state regulatory commissions, Interstate Commerce Commission practitioners, professors of transportation, editors of railroad magazines and authors of authoritative books on railroading and railway labor union officials. More than 2,000 of the names are new.

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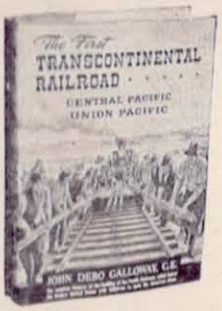

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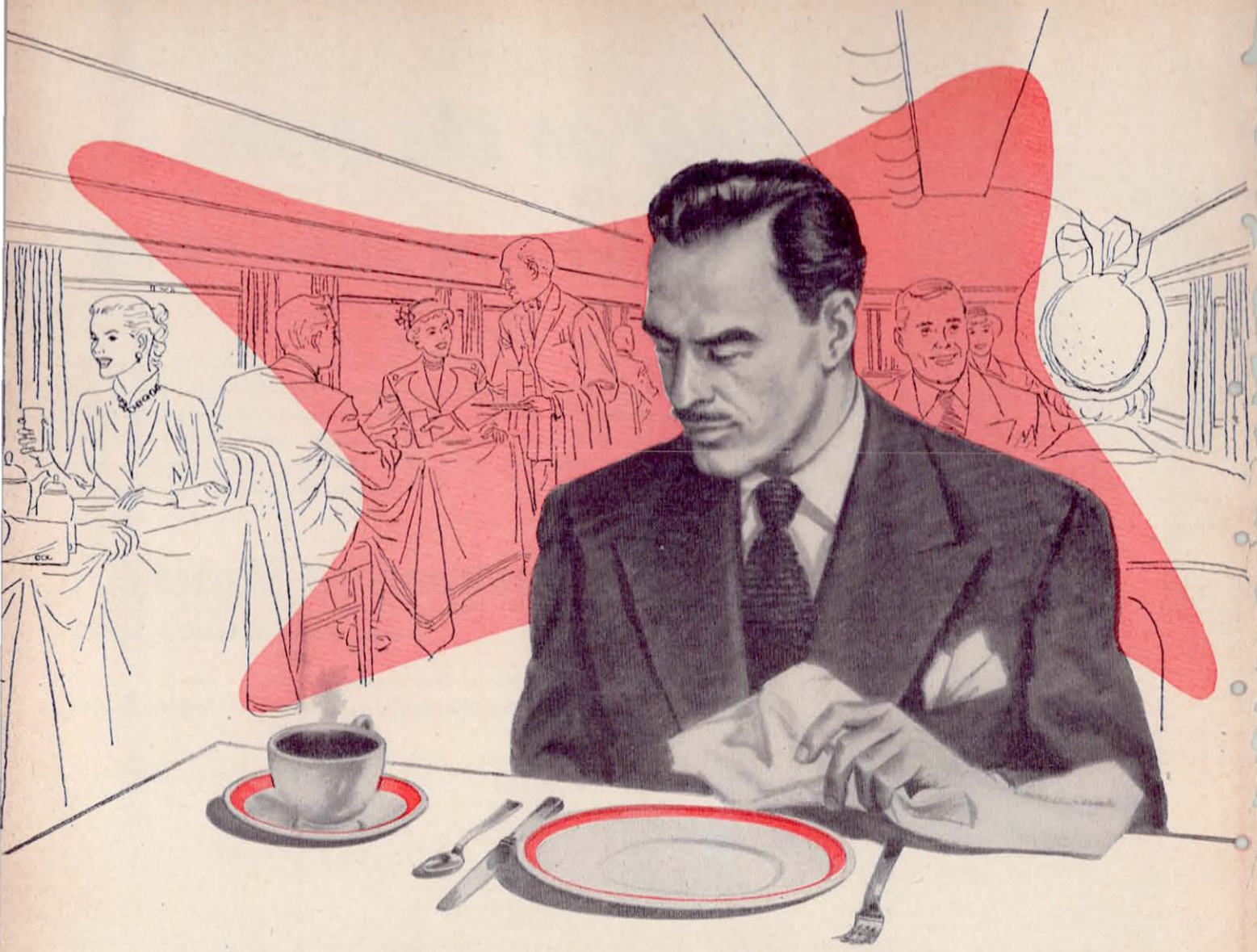

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Vol. 127, No. 27 December 31, 1949

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AT HOME ON THE RAILROAD

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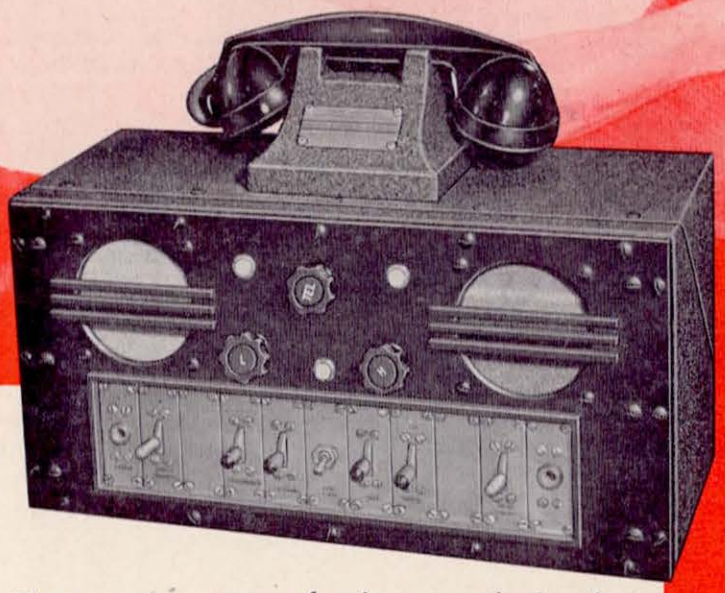

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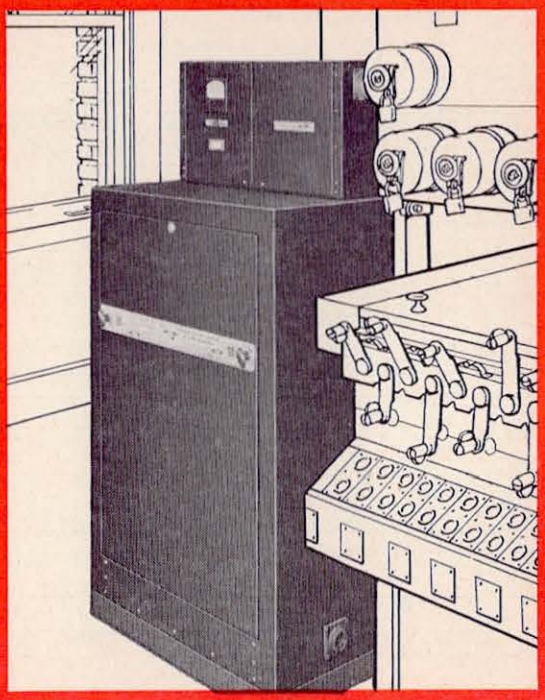
Wayside apparatus includes means for connecting recording apparatus.



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WEEK AT A GLANCE

NATIONALIZED TRANSPORTATION: Because, historically, events in Great Britain have often been the forerunners of substantially similar occurrences in this country, an understanding of the causes that lead to nationalization of British railroads, and of their operation under government ownership, is highly important to those who want to avoid similar nationalization here. On page 31, G. Lloyd Wilson, professor of transportation at the University of Pennsylvania, begins a carefully reasoned analysis of the question "Who Really Controls Nationalized British Transport?" "Inexorable deduction" leads him to the conclusion that "the real manager and policy-maker" is the minister of transport, and that the management and development of the railways "must be political rather than commercial." Dr. Wilson was also one of the speakers at a December 28 meeting of the American Economic Association, where he outlined his ideas as to the causes of British railway nationalization. At the same meeting, reported in the News section, nationalization in Mexico and regulation that may lead to nationalization in this country came in for some pretty sharp criticism from E. Grosvenor Plowman and Dr. Charles L. Dearing.

NEED FOR POLITICAL SKILL: Acquisition of political skill —using the word in its broadest sense, and not in derogation—is a "must" for the oncoming generation of railroad officers. Why this is so is explained in our leading editorial (page 19), which points out that, henceforth, those railroad officers who are most likely to be highly successful in their work are those who are most skilful in the handling of relations with employees, customers, legislators, regulatory authorities and the public generally.

RAILWAY SUPPLIERS CAN FIGHT SOCIALISM: What the railway supply industry can do about the issue of "freedom vs. socialism" was forcefully pointed out to a group of railway supply men in Chicago on December 28 in an address prepared by Samuel O. Dunn, publisher of this paper. Mr. Dunn's address, and his ideas on combatting what he calls "the *only* important issue confronting the American people" are reprinted in full on pages 29-31, while a brief account of the meeting itself appears in the News columns.

REAPING THE REWARDS: The $4-billion program of improvement of rolling stock and fixed facilities upon which the railroads embarked at the close of World War II gave to their 1949 customers the benefits of more efficient and more modern service, and to the railroads themselves, so far as traffic levels permitted, the rewards of greater efficiency. So says William T. Faricy, president of the Association of American Railroads, in his year-end statement, which is summarized on page 25. Indications are, Mr. Faricy also says, that freight traffic in 1950 will exceed that of 1949; and that the railroads "will continue their long-time program of improving facilities and services and increasing efficiency." His prediction concerning continued improvement is borne out, at least as to freight cars, by Arthur H. Gass, chairman of the A.A.R.'s Car Service Division, in his latest monthly review of the "National Transportation Situation," which is reported in the News pages. In it, Mr. Gass says "Preliminary advices indicate the possibility that ordering of new freight cars may be resumed in greater volume within a short time."

NEW POLICY FOR NEW CAPITAL: A fundamental change in federal policy is necessary to enable the railways to obtain the new capital which they need to provide adequate service, says Elisha M. Friedman, New York economist, in a recent letter to the Washington Post, adapted, by permission, on page 38.

"THE SOUTHERN SERVES THE SOUTH": How the Southern literally carries out its well-known slogan is told in word and picture in the article on page 26. By its intensive efforts to "sell" the Southeast to industry, the road has also "sold" its own employees—to such an extent that its industrial department includes "practically everybody from president to office boys." Result: Location on Southern lines of an industry a day for the past three years.

WHEEL SLIP AND PASSENGER-TRAIN BRAKING: Beginning on page 40 is an abstract of a paper presented to the Air Brake Association at its annual meeting in Chicago last September by C. L. Eksergian, executive engineer and assistant to vice-president of the Budd Company. In it, Mr. Eksergian discusses the three states of adhesion, the functions of wheel protectors and preliminary results of adhesion studies conducted by his company in conjunction with the Pennsylvania.

IMPROVEMENTS ON THE U. P.: The constant objectives of all progressive railroads—better service for shippers and passengers, more efficient operation and lower operating costs—will be brought closer to realization on the Union Pacific by two major improvement projects described herein. One, a new $750,000 freight station, designed to handle both transfer and local business, at North Platte, Neb., is covered in the article starting on page 22. The other, a major installation of centralized traffic control on 324.5 single-track miles between Caliente, Nev., and Salt Lake City, is described, with illustrations and diagrams, beginning at page 35.

NEXT WEEK: Under date of January 7, the 1950 Statistical issue of *Railway Age*, first authoritative summary of railway operations for 1949.

Down Comes the Cost of Cab-to-Caboose Radio!

Bendix Radio's new MRT-5A radio for railroads makes the undisputed advantages of end-to-end communication practical for every train on every railroad. This new, combined transmitter and receiver has a self-contained power supply, weighs only 41 pounds, and occupies no more space than a portable home radio. Installation is fast and easy—*and the price is way below any preceding equipment.* Write for complete information on the new MRT-5A—a genuinely basic step forward in railroad communications.

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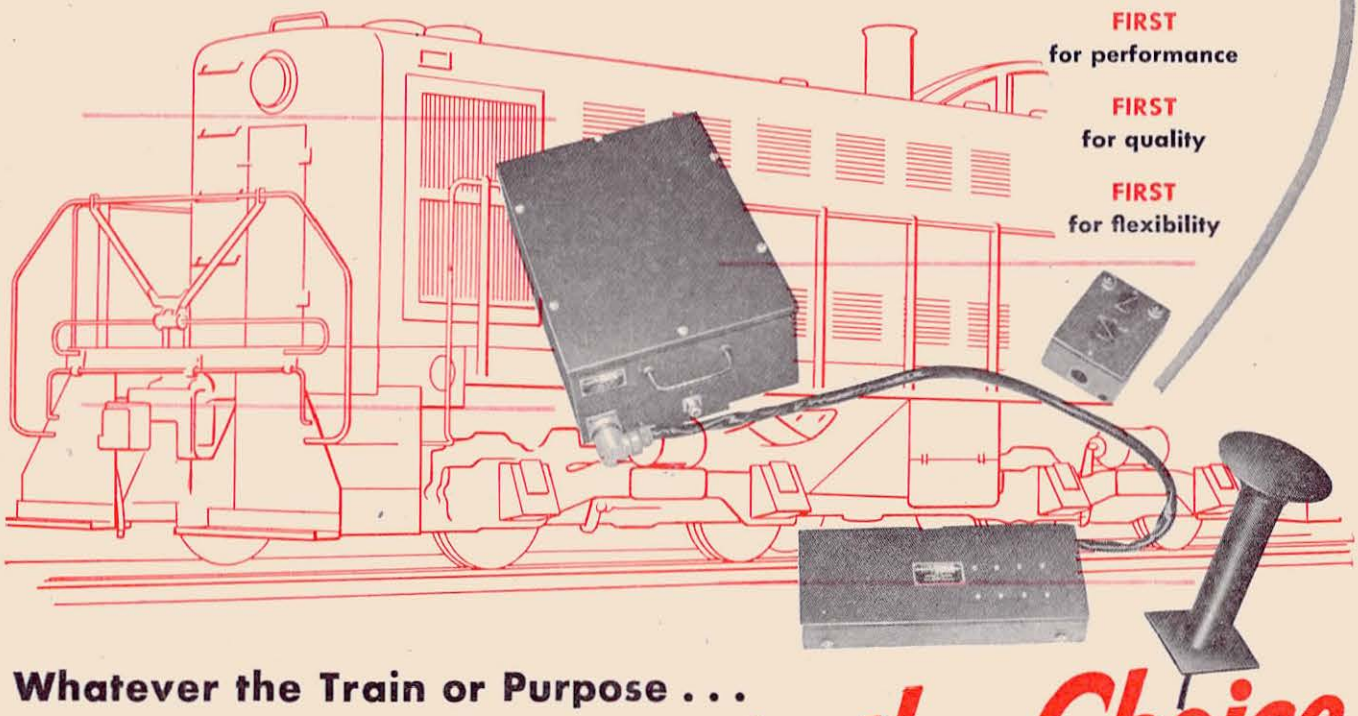

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NEEDED BY THE RAILROADS—INCREASED SKILL IN POLITICS

It may not be a particularly satisfying thought, but it appears nevertheless to be highly probable that, henceforth, those railroad officers most likely to be highly successful in their work will be those who develop the greatest skill in the management of *political* problems. Two important circumstances about the railroads, concerning which nobody would disagree, point inevitably to this conclusion, viz: (1) that the only difficulties which especially afflict the industry, making it less profitable than other business, are difficulties in the domain of politics and, hence, are removable only by political action; and (2) that, unless these political handicaps are removed or greatly alleviated, the railroads are likely to be socialized—in which case railroad managers would thereafter be beholden primarily to politicians for acquiring and retaining their jobs. In that eventuality, ability to run a railroad would inevitably play second fiddle as a qualification for high office, giving primary position to skill in pleasing and impressing the dominant politicians.

With political deftness as the first qualification for survival under government operation, and with the removal of political handicaps being the only certain means of forestalling such an outcome—is it possible to reach any other conclusion than that the acquisition of political skill is a "must" for the oncoming generation of railroad officers? Mastery in this sector being ultimately unavoidable, is it not the logical course to acquire it voluntarily as soon as possible—for use as a means of averting socialization rather than only as a necessary instrument for survival after socialism has arrived?

"Political"—In Broadest Sense

The term "political" is used here, of course, in its broadest sense—to include all relationships with people—employees, customers, and the general public, as well as legislators and regulatory authorities. The term is not used in any derogatory sense either. There is, after all, nothing disgraceful involved in learning and applying the known techniques for influencing popular belief and popular behavior to gain general recognition for merits which the railroad industry possesses but which are little understood or appreciated.

Toward this goal, we took occasion in our October 15 issue to recommend a book entitled "Winning Your Way with People," by K. C. Ingram,

assistant to president of the Southern Pacific—a book which is being widely read by the general public. The kind of thinking which went into the Ingram book is prevalent on a lot of railroads—particularly, as could be expected, in the public relations departments. So the logical first step any younger railroad officer might be expected to take in acquiring the "political" skill, which is so inevitably required of him, would be to search out and acquire the knowledge in this field available on his own and neighboring railroads; and there is a lot of it. In addition, there is, of course, a vast literature—a great deal of it not worth reading, but some of it highly enlightening. Any serious inquirer can readily obtain competent advice which will save him from wasting his time or being led astray.

The acquisition of this kind of skill by the oncoming generation of railway officers is not just a desirable but distant goal. On the contrary, there is evidence from all over the continent that more and more of these officers are gaining more mastery in this sector.

Not much more is needed, probably, as far as the schooling of individuals is concerned, than to convert the disassociated and little heralded accomplishments of individuals into a conscious and concerted movement. It is not necessary to implant new ideas and nurse them through the period of germination—but only to encourage further effort where it has already arisen and given promise of fruition; recognizing, of course, that "political" talent is supplementary to skill in an officer's specific assignment and is not a substitute for it. It won't work, in the long run, to merchandise a performance which is lacking in intrinsic merit.

Elementary Principles

Without waiting, however, for this development to come to full maturity, are there not a few elementary principles of successful political action which the industry ought, if possible, to apply widely just as soon as it can? The first of these principles might be stated as follows: *Nobody wants to join a political movement which is permeated with the fear of ultimate defeat.*

The railroads are just as necessary to the nation today as they were before the automotive vehicle or the airplane were invented. Indeed, they are more necessary, because the maintenance of a steady flow of low-priced automobiles, and military planes needed for defense, is predicated upon labor-saving mass transportation which only the railroads can supply. There is, then, no question involved of the survival of the railroads as an important and necessary industry, although that mistaken impression is sometimes allowed to go inadequately challenged. Instead, the only real question as to the railroads' future lies in whether they are going to be permitted to go forward as a prosperous industry under private ownership, or are going to be allowed to drift into dependence upon the public treasury, as their transportation rivals have done. No pains should be spared to present the railroads' problem in its true light, that is, as one which will be quickly solved whenever the people decide to solve it in accordance with their own interests.

The Public Likes "Progress"

Another important principle, akin to the first, is that: *Popular opinion will not support with any enthusiasm a movement not identified with the popular idea of "progress" — which, in general, usually means innovations in service at attractive prices.*

The railroads know something about this principle from actual experience in their introduction of improved passenger service at reduced rates in the years just prior to the war. The greatly increased cost of labor and materials has prevented anything quite so spectacular in the postwar years. At the same time, improved highways, airports, and waterways—for which carriers using these facilities have made no unusual contribution—have given these rival agencies an opportunity to enjoy a reputation for "progress" which has been denied to the railroads. Possibly the railroads could gain the reputation they both deserve and need by stating as specifically as they can what service and other innovations and improvements they will make if the corrective legislation they ask for is granted to them.

The story of the rich man who ordered the poor beggar to be removed from his presence, saying "Take him away; he is breaking my heart," is true to human nature. Regrettable though it be, there are mighty few people who care anything about "justice," while they are pretty likely to be tolerant of almost anything which comes to them in the garb of "progress." It isn't the job of the political technician to deplore facts, but to accept them and use them in his work.

Another situation, deserving all possible corrective attention, is the reluctance of promising young men to be attracted to careers in railroading (see *Railway Age* of November 5, 1949, page 45, and December 17, 1949, page 54). One of the ablest Wall Street financial writers, Leslie Gould of the New York Journal-American, recently wrote that railroading would offer a most attractive career for ambitious young men — except for the excessive degree of unionism and promotion by seniority. If, in order to change this injurious impression, it is also necessary to change a few of the facts—then what alternative is there?

Since railroad leadership is confronted with the necessity, at least ultimately, of acquiring political skill, it seems reasonable to conclude that the acquisition should come as soon as possible, while it will still serve effectively to forestall socialization of the industry.

OPPORTUNITIES FOR SAVINGS ARE ALWAYS JUST AHEAD

Coincident with the institution of the 40-hour week in the railroad industry, major expenditures for many kinds of equipment were curtailed unless they fitted into a definite pattern as far as tangible economies in operating expense were concerned. During 1949 one of the noticeable curtailments in major expenditures was in the field of shop facilities, such as machine tools, small tools and shop equipment. To many manufacturers who have enjoyed a substantial market in the railroad industry for several years, this was a disappointment.

When the underlying reasons are analyzed it is not too difficult to understand why the market was a poor one for that type of equipment in the year just past. Foremost among the factors that have affected expenditures in this field is the transition from steam to Diesel power, a transition which has meant the virtual abandonment of large-scale company-shop production of locomotive parts. With declining requirements for parts for steam locomotive maintenance, most mechanical officers have been reluctant to make expenditures for improvements to existing steam locomotive shops and so far requirements for parts production in the Diesel field are almost nonexistent. Although there still are almost 30 thousand steam locomotives on Class I railroads, there has been a tendency to ignore the necessity for economy in shop operations. The maintenance of steam power still represents a major operating expenditure of the railroad industry and the opportunities to effect economies in shop operation are just as great—and even more necessary—than they were several years ago. Actually, part of the difficulty has been the reluctance of many roads to approach the problem realistically and abandon substantial portions of their obsolete steam repair facilities that are now costing more money to operate than there is justification for.

The point has been made in these pages previously that it would be to the railroads' advantage to take the time and spend the money necessary to study the efficiency of their shop facilities in detail. Actually, even at the present rate of replacement of steam by Diesel power it will be several years before all of the steam power is retired. In the meantime, obsolete facilities are accountable for maintenance expense all out of proportion to their worth.

As far as machine operations on Diesel-electric locomotives are concerned, it is already beginning to be apparent that, in the long run, as the number of units in service increases, there will be numerous shop operations for which modern machine tools and shop equipment are going to be required. The more progressive machine tool and equipment builders already are studying the Diesel field with the idea of developing special machines, and special tooling equipment for existing machines, that will take care of these needs.

The railroad industry, as far as mechanical equipment is concerned, is passing through a major change—and those who expect to be a part of the industry in the future are changing with it by developing new equipment that will help take care of future maintenance operations at minimum cost. Both motive power and car equipment become more complex each year, and with rising labor costs the railroads must rely upon mechanized shop facilities to keep maintenance costs under control. The opportunity for manufacturers with wide-awake development departments is as great today as it ever was. On the other hand, the events of the next year or two may prove a still greater disappointment to those who have not prepared themselves to supply the things which the railroads most certainly are going to need.

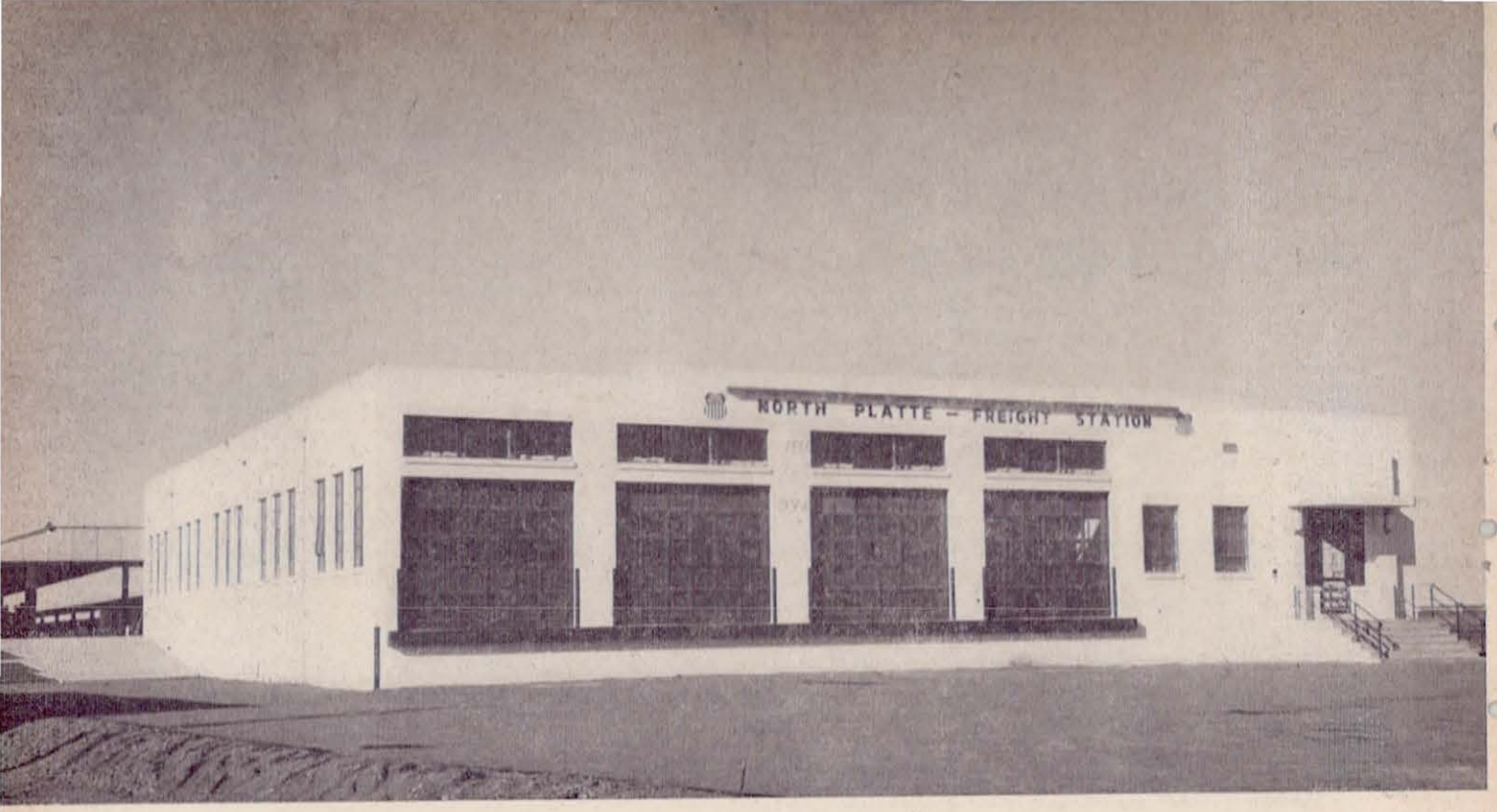
DO PASSENGERS PAY THEIR WAY?

One of the basic problems in passenger transportation of all kinds in the United States has been the difficulty of obtaining from users the full cost of the services rendered. In air transportation, for example, losses incurred in passenger carrying service are overcome through mail subsidies and other governmental aids. In many large cities, local bus and transit lines are publicly owned and operated and usually incur deficits which are met from public funds. In railroad transportation, the existence of deficits in passenger service, insofar as they are not derived from mail and express, indicates that the average passenger is not paying the whole cost of his trip.

There is no logical reason why users of passenger transportation facilities should not fully meet the cost of the services they receive. They have the ability to pay—far greater ability in this country than anywhere else in the world—but many of them continue to demand improved facilities and service, along with reduced fares. In this illogical campaign, they have been and are encouraged by local, state, and federal governments. Public authorities insist, in some cases, on the continuance of unprofitable services, and in other cases refuse to authorize the imposition of adequate charges.

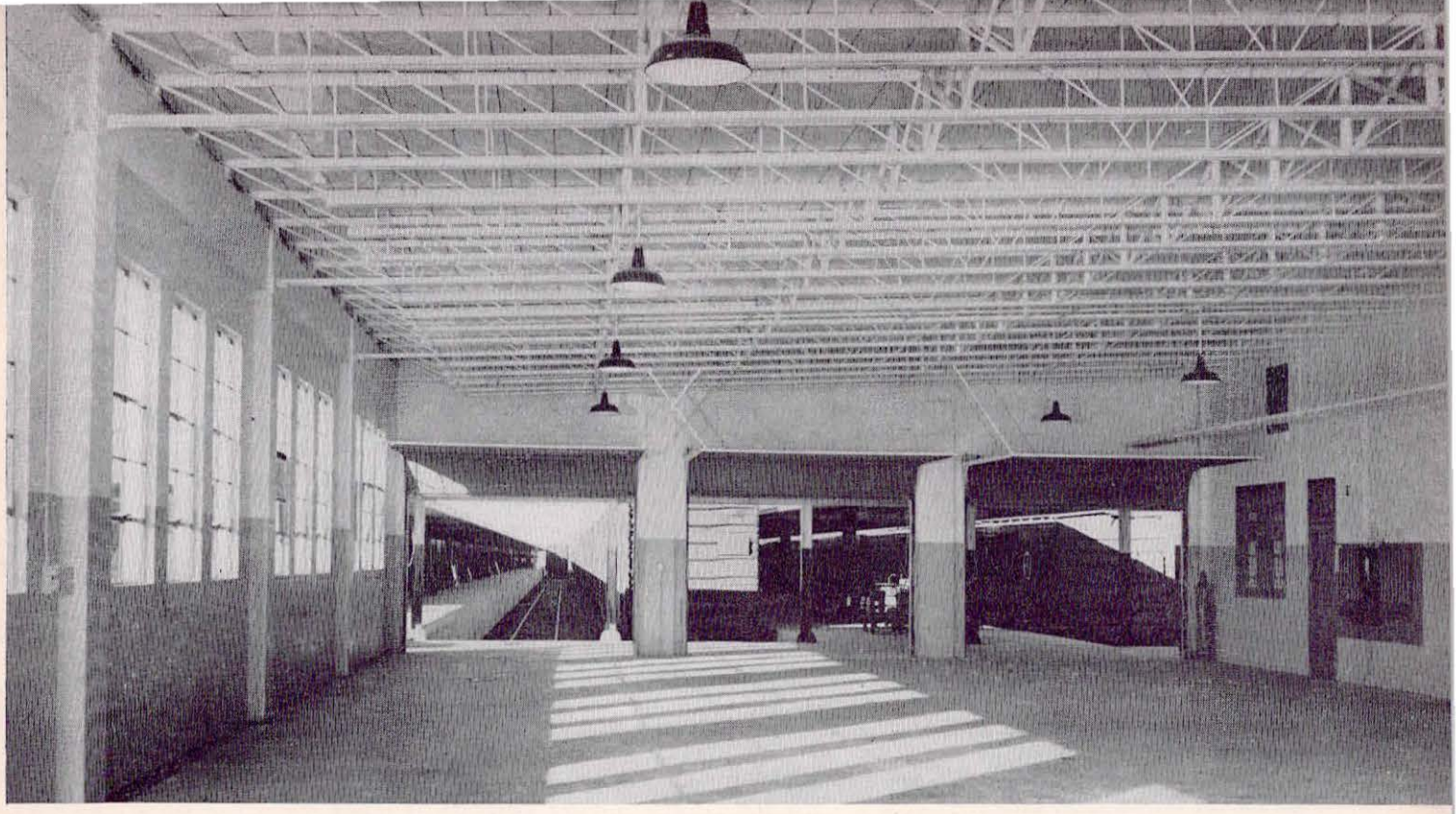
In the long run, of course, the public pays the whole cost of transportation service. A part is met directly through fares and user charges; a part is met indirectly through general taxation or by other means. What the average passenger does not realize is that he would be better off, in terms of facilities and services, if he would himself meet the total cost of the services rendered to him. Deficit operations covered by indirect means can never be so satisfactory as are profitable operations covered by direct charges. Payment by indirect means tends to become wasteful and inequitably distributed. It is contrary to the American idea that a citizen should stand on his own feet, meet his own responsibilities and obligations, and depend on his own efforts rather than on a paternal and beneficent government.

—From an address by Dr. J. H. Parmelee, vice-president of the Association of American Railroads and director of its Bureau of Railway Economics, to the American Association of Passenger Traffic Officers.



Above—Four overhead sectional-type doors open from the warehouse onto the trucking area. Three similar doorways at the opposite end connect the warehouse with the track platforms. Below—Approximately 200 persons will be employed at the new freight station. This view shows the attractive appearance of the general office, and the agent's office (background)

Transfer Station



The warehouse floor area was kept free of posts and columns by the use of Longspan bar joists to support the roof

Built at Hump Yard

Facility constructed by the Union Pacific at North Platte, Neb., with three 1,200-ft. platforms, is designed also to handle local freight business

Incorporating the latest design and equipment, a large new freight station has been constructed at North Platte, Neb., by the Union Pacific, at a cost of $750,000. Planned to serve primarily as a transfer station, the new facility also handles local business. It consists of an office and warehouse building fronting on a trucking area, and, projecting from the rear of this building, three covered freight platforms, each 1,200 ft. long.

That portion of the new facility for handling local business replaces a frame building adjacent to the road's passenger station in downtown North Platte, but the freight-transfer portion was built to coordinate with the operations of the new $3,500,000 hump-retarder classification yard* put in operation at North Platte in 1948. This yard is the point of divergence for Council Bluffs, Iowa, and Kansas City, Mo., on the east, and for Denver, Colo., and West Coast points to the west. Because of its relationship to the new yard the freight station is located adjacent to the crest area.

Seven-Day Operation

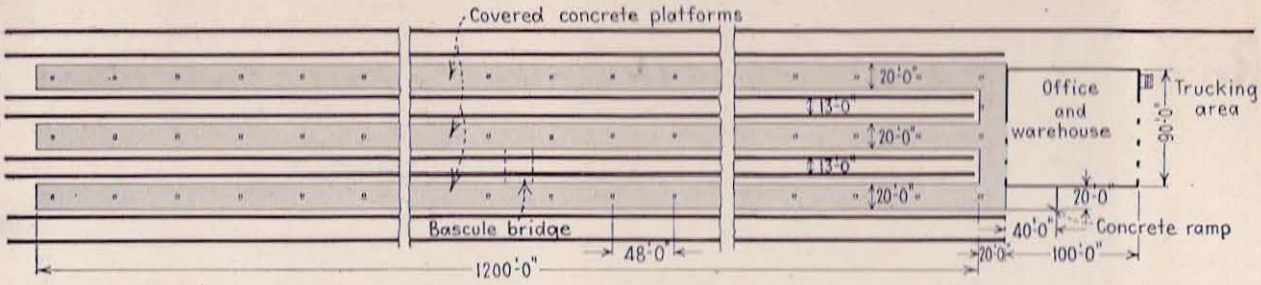
The new facility is expected to handle from 150 to 200 cars a day but it is anticipated that this number will increase as more freight is handled from Kansas City and Denver. Two hundred employees will be employed at the new station and clerks will be available 24 hr. daily, seven days a week, for the receipt and delivery of shipments, although freight-transfer operations will be carried on only between midnight and 4 p.m.

The office and warehouse portion of the new station is a one-story reinforced-concrete structure with a 90-ft. frontage on the trucking area and with a depth of 100 ft. In addition to a large freight room with an area of approximately 5,000 sq. ft., it contains space for the freight agent, cashier, receiving-and-delivery clerk, shipping order and C.O.D. clerk, a bad order and cooperage shop, the freighthouse foreman, a general office, records, stationery, and separate wash-and-locker facilities for the general office and warehouse employees.

Four overhead sectional-type doors, 12 ft. wide, serve the front end of the freight room, and three similar overhead doors serve the opposite or platform end. The freight room also contains a 16-ft. by 20-ft. cold storage room, and a freighthouse scale with a 7-ft. by 9-ft. platform. The roof over this room is carried on Longspan bar joists across the narrow dimension so that the floor area is free of supporting columns.

The inner sides of all exterior walls of the building are furred and insulated, and are lathed and plastered in the offices and toilet-locker rooms. Partitions are

* Described in detail in Railway Age of October 30, 1948.



The new freight-transfer station is expected to handle from 150 to 200 cars a day

constructed of hollow tile. The floors, consisting of reinforced concrete slabs, are covered with composition flooring in the offices. The roof consists of Transite roofing slabs covered with a tar-and-gravel surface.

1,200-Ft. Transfer Platforms

A covered cross platform, 20 ft. wide, extends along the rear of the building. Projecting from this platform are three covered concrete platforms, 20 ft. wide and 1,200 ft. long, which are each served by two tracks, one on each side. A balanced bascule lift bridge connects the mid-points of two of the platforms. A ramp along one side of the warehouse portion connects the platforms with the ground level.

All of the platform slabs rest on a tamped earth fill contained by concrete sidewalls carried down to footings set below the frost line. The edges of the platforms are protected from chipping and damage by steel guard angles. The platforms slope 1½ in. each way toward the edges for good drainage, although they are protected from the elements by an umbrella-type canopy. The canopies are supported on H-section columns set at 48-ft. centers, and are roofed with Transite corrugated asbestos-cement slabs.

Each platform is lighted with 75 incandescent lamps of 200 watts each, and power outlets have been supplied at each column for the use of extension lamps in cars being loaded and unloaded. There are four drinking fountains and seven fire hoses on each platform. An intercommunication system connects the office and warehouse section, with four talk-back speakers on each platform.

Mechanical Equipment Used

Freight-handling operations at the new station are highly mechanized. The equipment used consists of 3 lift trucks, 7 tractors and 300 trailers, a powered snow sweeper, and an assortment of smaller equipment, including steel platform and roll-away heavy-duty dollies, erect dollies for handling plate glass and sheet material, hand trucks for barrels, and specially designed four-wheel trailers for handling blocking and the removal of trash.

The new station was constructed under the general direction of W. C. Perkins, chief engineer of the Union Pacific. About 5,000 cu. yd. of concrete and 600 tons of structural steel were used in the construction of the facility. Work on the structure was started about a year ago under contract with United Builders, Inc., of North Platte, and was completed in December, 1949.

The middle platform of the three 1,200-ft. docks serving the new transfer station. Details of the fireproof construction of the canopies are clearly discernible in this view

Railroad Capital Outlays Gave 1949 Customers Benefits of More Efficiency and Modern Services

By WILLIAM T. FARICY
President, Association of American Railroads

In the year 1949, railroads moved more tons more miles for each hour of freight train service, and operated a greater mileage of fast, modern passenger train service each day, than ever before.

These gains in railroad service and efficiency are due largely to the four-billion-dollar program of improvement in plant and equipment started by the railroads as soon as the war ended, and carried on by them ever since. This program has resulted in building nearly 300,000 new freight cars, 4,700 new locomotives, of which 4,350 are diesel-electrics, and 3,700 new passenger-train cars, besides great fundamental improvements in roadway and tracks, yards and terminals, signals and communications, shops and other fixed facilities.

Realization of the benefits of this program of improvement depends to a large degree upon the volume of traffic moving by rail. General business and transportation prospects for 1950 warrant the expectation that freight traffic in that year will exceed that of 1949, so that the benefits of the improvements in railroad facilities should be increasingly realized in 1950 and the years to come.

"Disappointingly Low" Return

Railroad operations in 1949 resulted in a financial return of approximately 2¾ per cent on net investment in plant and equipment. This disappointingly low return was due in part to a decline in the volume of business; in part to failure to obtain compensatory rates for handling mail; and in part to the sharp rise in railroad wage rates and costs resulting from the introduction on September 1, 1949, of the 40-hour work week with no reduction in pay from the previous 48-hour week.

Offsetting to some extent these adverse factors were the revenues resulting from increases in freight rates and passenger fares authorized during the year.

As the new year of 1950 begins, the prospects are that the railroads will continue their long-time program of improving facilities and services and increasing efficiency. One immediate prospect in that direction is for an enlarged and improved car supply. With the increasing national production anticipated, and with the probability that the railroads will be able to improve their competitive position, indications are that in 1950 the railroads will enjoy a greater volume of freight traffic and that the postwar decline in passenger traffic will tend to level off. An increased volume of traffic will make it possible for the railroads both to provide better service and to operate with greater efficiency, through more intensive utilization of improved facilities.

Loading of revenue freight in the past 12 months totaled 36,000,000 cars, a reduction of 16 per cent compared to 1948. Freight traffic in 1949 amounted to approximately 530,000,000,000 revenue ton-miles, a reduction of approximately 16.9 per cent below the preceding year. Revenue passenger traffic in 1949 totaled about 35,000,000,000 passenger-miles, approximately 15 per cent less than in 1948. Nevertheless, passenger traffic in 1949 exceeded that in each of the 15 years prior to 1942.

On the basis of actual returns for the first ten months and an estimate for the last two months, it is expected that the net railway operating income of the railroads, before interest and rentals and other fixed charges, will approximate $650,000,000 in 1949. This is less than in any year since 1939, with the exception of 1946.

On the basis of those estimates, the net railway operating income of the Class I railroads in 1949 is expected to equal a return of 2.75 per cent on their net property investment. Out of this return, the railroads must pay interest, rentals and other fixed charges and out of what is left for the owners, much of the cost of improvements must come. The net income of Class I railroads in the past twelve months is estimated at approximately $350,000,000 which is below any year since 1940, with the exception of 1946.

New Freight-Service Records

Despite the reduction in traffic a new high level of freight train operating efficiency was attained by the railroads. Not only were more freight cars per train moved, but the average speed between terminals was higher than ever before, resulting in the greatest output of transportation per freight train hour ever recorded. The average hourly output in 1949 was 19,153 net ton-miles, compared with 18,779 in 1948, the previous high record, and 17,623 in 1944, the peak war year.

Class I railroads handled an average of 1,149 tons of freight per train in 1949. While this was 27 tons less than that for 1948, it was 10 tons greater than in 1944, the peak war year.

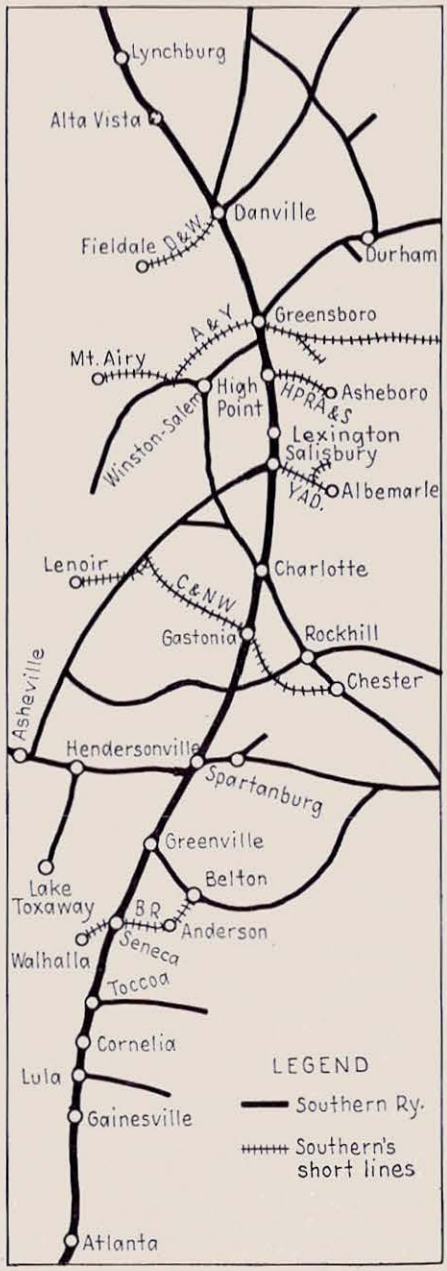
A new high record in the average speed of passenger trains also was attained in the past twelve months.

This outstanding operating performance was in part due to the new and better locomotives and cars which are being put in service by the railroads. Class I railroads installed 1,875 new locomotives in 1949, the greatest number for any year since 1923. Of that number, 1,815 were Diesel-electrics and 60 were steam. The same railroads in 1948 put 1,487 new locomotives in service, of which there were 1,397 Diesel-electrics, 86 steam and 4 electric.

"The Southern Serves the South"

This slogan is literally carried out in assisting the road's territory to industrialize

The Southern has an unusually large industrial department, for it consists, in a sense, of practically everybody employed by the railway, from the president down to the office boys. In the course of its widespread and consistent advertising campaign to "sell" the Southeast to the country's industrialists, the Southern has also "sold" its own employees on the importance of industrialization.



An industry a day has been located on the Southern

Throughout its corporate life, it has been the recorded policy of the Southern "to develop the territory and to foster faith in the South, its people and opportunities." What it adds up to is revealed by President Ernest E. Norris' recent statement to the effect that *an industry a day* has been located on the Southern during the past three years. Since 1946, more than 1,100 new factories, 110 large warehouses and 350 substantial additions to existing plants have been erected along the lines of the road.

The Southern has been "industry-minded" since its inception. When a group of lines was coordinated to form the Southern system in the Nineties, the new president, Samuel Spencer, brought in W. W. Finley as vice-president in charge of traffic. Mr. Finley, although a native Southerner, had been trained on pioneer railways in the Northwest, where industry had to be built up as the new lines were pushed on toward the Pacific coast. He brought empire-building tactics with him to the Southern, to the astonishment of some staid and conservative contemporaries in the then largely undeveloped Southeast. The head of his land and industrial department spent most of his time in New England for years and was to a considerable degree responsible for the hegira of textile mills from that area to the Southeast that has continued at such a rate that 85 per cent of the industry is said to be situated now in the Southeast.

The Southern's official industrial and agricultural development department is under the overall supervision of the vice-president in charge of traffic and under the direct charge of an assistant vice-president. General industrial agents are located at Washington, Charlotte and Atlanta, with industrial agents, geologists, etc., comprising their staffs. The general agricultural agent and the general livestock agent have headquarters in Atlanta. Agricultural, livestock and forestry development has been most interesting, as is the overall industrial development on this 8,000-mi. system, operating in 12 states and the District of Columbia. This article deals only with the development of that portion of the road's double-track main line between Lynchburg, Va., and Atlanta, Ga., 465 mi., together with contiguous lines.

The Textile Industry

The textile industry was the first to realize the potentialities of the South and, for half a century, the industrial department of the Southern has worked closely with this industry in supplying data on possible mill sites and assisting in every way possible in the location of such mills. Textile mills have revolutionized the entire economics of the area under review and have, in recent years, vastly raised living standards. New construction since the war has been tremendous, one company alone having spent $50 million in that time for the construction of new mills.

Originally, the mills were induced to move south to be nearer the source of raw materials and also to have a large supply of labor readily available. The multi-storied mills which were erected then,

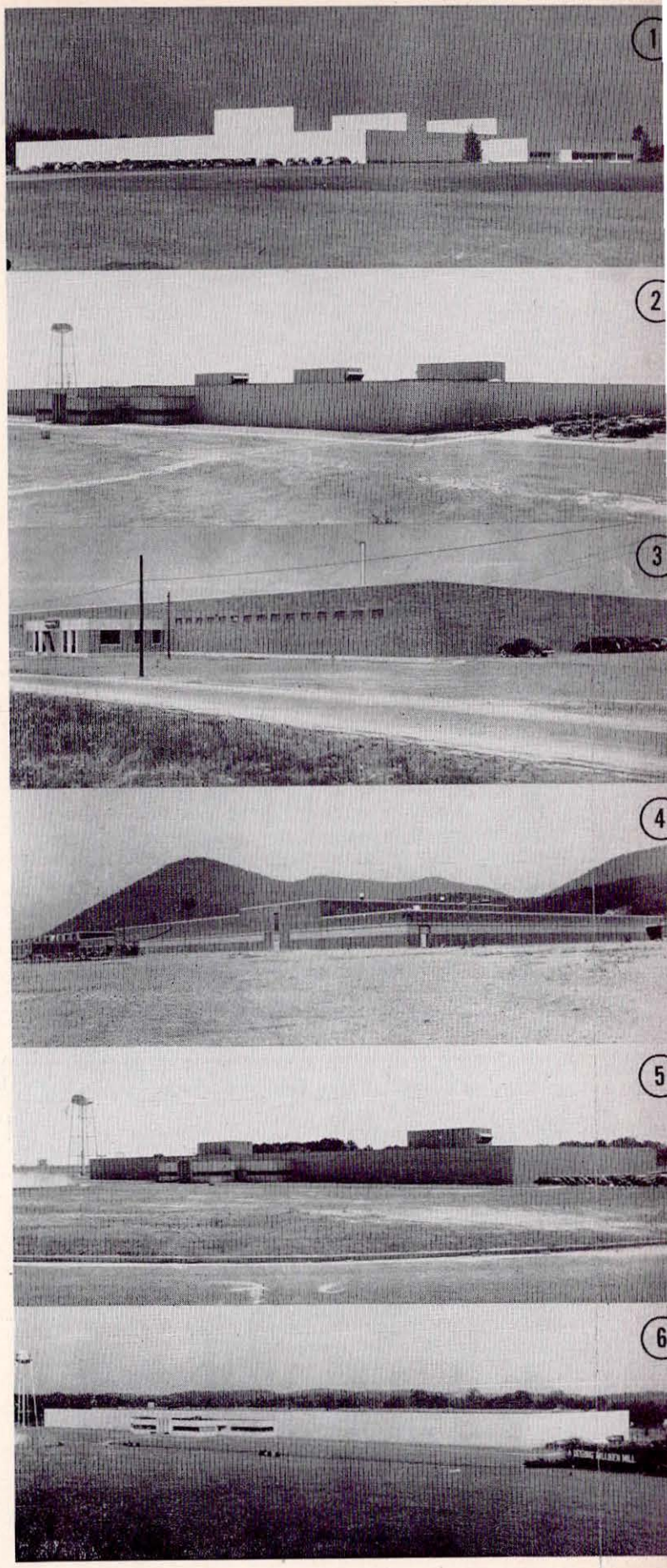
as well as the mill villages, were patterned after the New England originals and were hardly things of beauty. In recent years, however, and particularly in the large number of new mills constructed since the war, the architectural trend has shown a radical change. The typical textile mill now is an artistic one-storied structure of ultra-modern design, windowless, air-conditioned and adorned with glass brick. Its spacious grounds are beautifully landscaped. Company housing has shown an equal improvement and, by supplying almost ideal living and working conditions, the textile companies have, in the main, been able to avoid unionism, which, in this industry at least, frequently means dictation from foreign-born "racketeers."

The "Main Street"

Lynchburg, Va., 172 mi. south of Washington, is the northernmost mill city on the Southern. From this point to Atlanta, there is an almost continuous panorama of textile mills, other factories and warehouses along the tracks. At Altavista, Va., an industrial town 23 mi. south of Lynchburg, a large, modern mill is just being completed, and Danville, Va., is the site of many mills, and the home of one of the largest textile operations in the country, as well as being the eastern terminus of the Danville & Western, which serves several mill towns on both sides of the Virginia-North Carolina state line. The D. & W. is one of a group of short subsidiaries of the Southern, all of which serve mill towns: the others are the Yadkin, 36 mi. long; the High Point, Randleman, Asheboro & Southern, 28 mi.; the Carolina & Northwestern, 110 mi.; and the Blue Ridge, 44 mi.

The Southern reaches directly 40 of North Carolina's 102 counties; these 40 counties contain 75 to 80 per cent of the state's industry. The Piedmont district — rolling country between the flat coastal plains and the mountains — which is a broad belt of industry extending from Virginia to the Georgia border, is traversed by the Southern's main line. In addition to the textile industry in all its phases, the Piedmont contains a large furniture manufacturing industry, and a variety of small industries, as well as a number of cities that are most important warehousing and distributing centers. It contains also huge factories where most of the cigarettes smoked in the United States are produced, Winston-Salem, Durham, and Reidsville being particularly large and important centers for this industry.

Greensboro, N. C., 48 mi. south of Danville, Va., is the first sizable city after crossing the state line and it is an important warehousing and distributing center, as well as having textile mills, sewer pipe and tile plants and fertilizer plants. Together with the city's industry committee, Southern industrial agents have done much work on the project of converting a former air replacement depot into a busy industrial area. This large camp had the advantage of being within a mile and a



SIX TYPICAL MILLS IN THE SOUTHERN'S PIEDMONT AREA —(1) Gerrish Milliken, Pendleton, S. C., (2) McCormick Mill, McCormick, S. C., (3) Haynsworth Mills, Anderson, S. C., (4) James Lees & Sons Co., Glasgow, Va., (5) Johnston Mill, Johnston, S. C., and (6) Excelsior Mill No. 2, Clemson, S. C.

half of downtown Greensboro and more than 125 small to medium industries have been located in the area since the war.

At Greensboro an important east-west secondary line crosses the main line of the Southern. This city is also the central point on the Atlantic & Yadkin, which extends 60 mi. southeast to Sanford and 70 mi. west to Mt. Airy. The A. & Y. has been operated as an independent property, but it is now in the process of being amalgamated into the Southern's system of short lines. All of these lines out of Greensboro are thickly dotted with textile mills and, at Winston-Salem, 27 mi. west, are located what are said to be the largest tobacco factories in the world.

The 93 mi. of main line between Greensboro and Charlotte serve an intensively industrialized area, including the cities of High Point, Thomasville, Lexington, Salisbury, Kannopolis, Concord and smaller towns, all with large textile mills, while the High Point-Thomasville area abounds in furniture plants as well.

Charlotte, a city of over 100,000 population, is the headquarters of the Eastern lines of the Southern, in which is located a general industrial agent. With the growth of the city as a distributing and warehouse center, its population has far more than doubled since 1930. It is the nearest metropolis to an intensive industrial area in all directions. Gaston County, to the west, contains numerous textile mills, while, early in 1949, a multimillion dollar Celanese plant was built at Rock Hill, S. C., 20 mi. south of Charlotte.

The main line of the Southern crosses into South Carolina 41 mi. west of Charlotte and enters Spartanburg county, which, in the past 20 years, has been developed, with valuable assistance from the Southern's agricultural department, from a rather poor cotton region into one of the country's most productive peach-growing areas. The Spartanburg-Greenville-Anderson area of northwestern South Carolina also abounds in mills manufacturing textiles of various sorts, and, since the war, a very large textile mill has been located at Toccoa, Ga., just over the state line, as well as a lumite plant, containing 60,000 sq. ft. of floor space, at Cornelia, Ga. The latter city is on the eastern edge of one of the country's largest chicken-producing areas, centering at Gainesville, Ga., which, in 1948, shipped out more than 30 million dressed chickens.

"Fabulous Atlanta"

The growth of Atlanta as the principal distributing center of the Southeast had begun prior to the war, but its postwar development has been almost incredible, with building projects sprouting up in profusion. Atlanta is a hilly town and the railways serving it are hemmed in. The Southern had several industrial sites near the downtown area, but these were nowhere nearly sufficient to meet the demand and were soon snapped up, with new industries clamoring for more. Accordingly, the Southern looked for a site farther out that was capable of almost limitless expansion and found it in the Chamblee-Doraville area, located on the double-track main line, between 10 and 13 mi. northeast of Atlanta, where industrial sites ranging from 10,000 sq. ft. up to several acres are available.

The area already contained the plants of two oil companies, but since the war it has mushroomed into such a busy industrial area that one housing project alone immediately adjacent to the property comprises 1,000 apartments, which have just been completed. These were built to serve the employees of the huge General Motors assembly plant constructed in 1948, as well as the somewhat smaller plants of the United States Envelope Company, Boyle-Midway, Inc., Westinghouse Electric Corporation, Artcraft Furniture Company, and Williams Brothers, all of which have constructed plants in the area since the war. In addition, seven other large plants are now in the course of construction in the area, including the Packard Motor Company assembly plant and a large plant of the John Deere Plow Company. Currently the Southern's industrial department, represented in Atlanta by a general industrial agent and an industrial agent, has negotiations pending with several other companies for large plants in this locality. From an area having only one or two small sidings, the Chamblee-Doraville district has been built up by the Southern to a point where a sizable yard is required and a Diesel switch engine is employed on a three-shift basis.

Progress in the Mountains

Until comparatively recent times, the Blue Ridge and the Great Smoky mountain areas of North Carolina were given over almost entirely to summer resorts and, in the more remote areas, the population was extremely backward and, to a large extent, illiterate. The fine new schools now in this region and the much higher standard of living of the mountain folk is largely attributable to the industrialization program of the Southern, which affected the entire population and reached into the remotest valleys. For example, Pisgah Forest, N. C., was a mere village on the Hendersonville-Lake Toxaway branch of the Southern until 1939, when an immense cigarette-paper plant was located there. Since the war, this plant has been expanded until it now covers 258 acres, and its personnel department reached out into the valley for many miles around to secure the 1,500 men and women now employed there.

Asheville, long known as a tourist center, is also an important distributing point, and, in addition to its committees for attracting tourists, it has an equally hard-working industry committee, to attract new enterprises. A large rayon mill and several smaller plants are located nearby. The mammoth textile industry has also spilled over from the Piedmont district into several other of the mountain towns and there are furniture factories scattered over the area as well.

IN RUSSIA—48-WEEK SHIFTS!

In Russia, according to the British Sunday Express, as quoted in the Railway Gazette: "Each long-distance train has three crews, and sleeping cars for their use are attached to the engines. But do not imagine that these fortunate Communist engine drivers are whisked back home after a shift on the footplate. Far from it. The three crews stay with their engine for 48 weeks at a stretch, then have a four weeks' rest. And during their 11-month shift they must maintain their engine as well as drive it. They have an incentive. For if there is a breakdown they get no pay."

Railways' Suppliers Can Fight Socialism

Struggle needs sincere efforts by businessmen to combat government meddling wherever it raises its head

By SAMUEL O. DUNN
Publisher, *Railway Age;* Chairman, Simmons-Boardman Publishing Corporation

Ever since I was in my teens I have been reading, writing and speaking about various phases of the subject of socialism, and, naturally, I am more interested in it now than ever, because socialism has become the *only* important issue confronting the American people.

In view of my subesquent career it may amuse you to be told that in 1894 in a country high school out in western Kansas I debated the subject of "Government Ownership of Railways," and, as you would naturally surmise, I took the negative. That that subject was being debated 56 years ago is not without significance. It shows that the movement for socialism in this country is not new. Government ownership was being debated then because the Populist party was then advocating it and other socialistic policies, some of which have been actually adopted and others advocated within the last two decades by the "New Deal" and "Fair Deal."

The movement has gained its present momentum principally because it is being promoted by socialistic leaders of labor organizations with 15 million members who have captured control of the Democratic party since that party got control of the government in 1932. Of our 60 million people who are gainfully employed, about 45 million do not belong to labor unions; and the immediately pressing problem of those opposed to socialism is to array and organize that great majority of the workers and the voting members of their families against socialism. For the decision of the issue of "freedom versus socialism" must be made in politics and at the polls. It cannot be made anywhere else, and it may be made irrevocably in the elections in 1950 and 1952.

Business and Socialism

I have stated that the movement for socialism has gained so much momentum "principally" because it is being promoted by labor organizations under socialistic leadership. I said "principally," because others, especially businessmen, have a large share of the responsibility. After having been editing and publishing business papers for almost 43 years, especially in the field of transportation, I do not lack knowledge of or have any illusions regarding what businessmen have done to promote or hinder socialistic policies. No other industry has suffered so much, or is so seriously menaced now, by such policies as the railroads; and businessmen are principally responsible for the prevalence of socialistic policies in transportation.

No other single event could advance socialism in this country so much as adoption of government ownership of railways; and if and when government ownership of railways is adopted businessmen will have principally caused it. Businessmen have done the most to cause adoption of the policies of regulation by which the profits of the railways have been for forty years more and more restricted. Businessmen have done the most, in their own supposed selfish interest, to promote the subsidization of carriers by water, highway and air which enables these carriers to take traffic from the railways that the railways could handle more economically, *all costs considered*, and to prevent the railways from charging remunerative rates. And when I hear businessmen talking against socialism who I *know* are still promoting socialistic policies in the transportation field and eagerly taking advantage of them, I marvel at how they can believe that, until they become honest, they can take any effective part in arraying the public against socialism.

Subsidies Lead to Socialism

At this point I desire to emphasize what I consider is the most powerful influence driving us toward socialism. It is the use by government of increasing billions annually to give direct and indirect subsidies to industries and individuals. I will not attempt any enumeration of these subsidies and the effects of particular subsidies because it would take too long. I will simply make three general statements that will not be questioned by any competent student of the subject:

First, fair and equal competition based on *actual total costs* of production or transportation are essential to the maintenance and progress of the private enterprise system; and subsidies make impossible this fair and equal competition because they enable those who are subsidized to base their prices or rates on less than their total costs and thus to drive out of business those who are not subsidized and therefore must base their prices or rates on total costs.

Second, subsidies tend to break down private enterprise by making excessive the taxes that must be paid by all companies engaged in private enterprise and all individuals who derive incomes from private enterprise.

Third, subsidies buy the support and votes of many of their recipients for socialistic policies, and the more

This article is adapted from a talk to a group of railway supply men in Chicago on December 28. The meeting was held to determine what the railway supply industry can do about the issues of "Freedom versus Socialism" raised at the "Freedom Dinner" in Chicago sponsored by the Transportation Association of America — reported in *Railway Age* of December 3, page 55.

subsidies are paid the more votes will be bought for candidates who advocate the socialistic policies which in the aggregate add up to total socialism.

Self-Interest in Voting

It is very hard to influence people to vote against socialistic policies by which they are subsidized, and the most dangerous present threat to American political and economic institutions is the use politicians are making of subsidies and promised subsidies to buy votes. So if you really desire to beat socialism, hit every policy of subsidy that sticks up its head, whether it is in transportation, agriculture, housing, medicine or elsewhere.

To defeat socialism two things are essential — first, the *education* of public sentiment against it, and, second, the *activation* of the public sentiment created so that people will go to the polls and elect men to public office who are opposed to *all* socialistic policies. For if we ever get socialism, it will never be because the people vote for *total* socialism. It will be because the private enterprise system is undermined and destroyed, as private ownership of railways and private enterprise in general are being undermined now, by the adoption of one socialistic policy after another. And the issue of freedom versus socialism must be finally settled in politics at the polls because there is no other place where it can be settled.

What, then, can you and I do to help create a public opinion that will actively and effectively oppose *every* socialistic policy. First, we can so educate ourselves that we will recognize as socialistic every policy which actually is socialistic. Few men in business do that. Most of them are so absorbed in the hourly and daily pursuit of what was formerly the Almighty Dollar that they grab at any policy that they believe will benefit their business *now*, in disregard of whose business it will hurt, or of whether *in the long run* it may hurt or ruin their own business.

We can try to influence the opinions of those with whom we come in contact and the policies advocated by both the local and the national organizations to which we belong. The railway equipment and supply companies are affected as much as the railways by government transportation policies. They have sales representatives or officers in every important community. Their sales representatives and officers should enlist actively in the opposition to socialistic policies in transportation in particular and to socialistic policies in general. They can talk against them whenever and wherever there is opportunity, disseminate literature against them and try to get the organizations to which they belong to oppose them—and not merely by adopting resolutions that are meaningless or can be interpreted to mean whatever those interpreting them prefer.

Many railway equipment and supply companies belong to the National Association of Manufacturers and the Chamber of Commerce of the United States. While these organizations piously declare over and over again their patriotic and undying opposition to socialism, neither of them has ever yet forthrightly gone on record in opposition to the *specific policies* of regulation and subsidization by which the railways, and, therefore, the supply manufacturers, are seriously injured and menaced. Why? Because the advocates and beneficiaries of socialistic transportation policies have exerted more influence in these national business organizations than has been exerted by those who are injured by socialistic transportation policies and by those who are consistent and honest opponents of socialism.

You can give your financial support solely to those who fight the good fight against socialistic policies. For example, do you ask yourself, before you place advertising in a business or general magazine, whether it is trying to help save your business by opposing socialistic policies, trying to ruin it by advocating such policies, or just doing nothing about them at all? When I see manufacturing companies in this field giving business to publications that have never done a thing and are not doing a thing now to promote progress in transportation or to defend the railways and the equipment and supply companies from attacks by those who are trying to ruin them, I wonder whether these companies desire or deserve to have any defenders. The railways also are sinners in this respect.

Support the Good

The most dangerous publication in this country is not the Daily Worker. The most dangerous are those that profess to oppose socialism, but fill their columns with insidious attacks on private enterprise, and promote instead of opposing specific socialistic policies. Are those who place advertising for railways and for manufacturers of railway equipment and supplies influenced in selecting the publications in which they advertise by the editorial contents of these publications?

Interests profiting by socialistic policies are so influenced. Not long ago, for example, *Railway Age* for a period of years lost a substantial amount of advertising because *Railway Age* persisted in exposing and attacking the subsidization of highway transportation. That was quite a sacrifice for a small publishing company to make in order to combat unsound policies because they were inimical to the industry it serves. But all of us are going to have to make sacrifices if we are going to be saved. If railways and railway equipment and supply companies won't fight for themselves and back those who fight for them, the battle to save them from socialization is lost already, and those who are willing to fight it had just as well hang up their armor and sell their weapons to the junk dealer.

Finally, we can support with our work and our money candidates for nomination and election who will stand up and vote and fight against socialistic policies. I said "candidates for *nomination* and election," because if we let both major parties *nominate* "pinks" we had just as well stay away from the polls on election day.

I am supposed to be a Republican, but actually I am an anti-Socialist, and I was glad Dewey was beaten. His speeches showed that he was either a cowardly trimmer or as much of a Socialist as Truman. If he had been elected we would have had a party in power as well as one out of power that favored socialistic policies. Now we at least have one out of power that we may be able to use to oppose socialism. But don't be too easily fooled. Leading Republicans in public life have as many colors, red, pink and otherwise, as leading

Democrats in public life. Those opposed to socialism will have to take control of and reorganize the Republican party, and make it nominate the right kind of candidates, or organize a new party, if there is to be strong opposition to socialism in politics, which is the only place where it can be beaten. And, fortunately, that it can be beaten when the issue is squarely presented and intelligently and courageously discussed has been shown recently by the elections in New Zealand and Australia, which already had become virtually socialist commonwealths.

The nominations and elections for Congress in 1950 will be very important and may largely determine the presidential election in 1952; and the elections in both 1950 and 1952 may determine the entire future of this country, and hence the entire future of yourselves and your business. What are you going to do about it? For example, over in Ohio, Senator Taft will be running for re-election and helping fight the battle against socialism in 1950. The labor leaders and other promoters of socialism are raising large amounts of money to beat him. Are you going to contribute to Taft's campaign fund? I have already, and I intend to contribute more. His defeat would be a great victory for socialism; his election a great defeat for it.

If you are not willing to do everything you can, however small, to beat socialism and every socialistic policy, you don't really care anything about the future of your country, or of yourself or your children, and you should quit squawking about those who are responsible for the policies that are threatening America with ruin—for you are one of them. Inaction against bad policies at a time such as this, when the entire future of the country is at stake, is as blameworthy as support of them.

I was asked to say what I believe you and I should do in the struggle between "freedom and socialism." That is the best answer I can make now, and I make it with a full realization that "If to *do* were as easy as to *know what were good to do*" there would not be so much less need for advice from old men than there is for action by young men.

Who Really Controls the Nationalized British Transport Industries?

By G. LLOYD WILSON
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In any governmentally owned and operated enterprise it is important to know, if possible, just who it is that actually controls the policy and practices of the enterprise. It is not enough to accept the over-simplification that is sometimes used by Socialist spokesmen that the people really control the socialized industries and that those who work for the industries are really working for themselves, and that the public is receiving and paying for the services which they themselves are providing. This view of the relationship of the public and socialized industry is too idealized to comport with reality.

The transport industries in Great Britain, taken over by the government by the Transport Act, 1947, are related to several agencies of the government and the people of Great Britain with respect to various aspects of their organization, management and responsibility. These agencies are: (1) the Executives set up to "manage" the transport industries, (2) the British Transport Commisison; (3) the Ministry of Transport; (4) the Transport Tribunal; and (5) Parliament, as the representative body of the British people. Which one, if any, of these agencies can be said to control the transport industries of Great Britain? If the people of Great Britain do not approve of things done or not done by the transport industries with which of these bodies can they express their disapproval and obtain the remedies they desire?

In order to obtain answers to these questions it is necessary to consider the provisions of the Transport Act, and to examine the functions of the Executives; the Transport Commission; the Transport Tribunal; the Ministry of Transport; and the relationship of Parliament to the responsibility of providing transportation. Anyone who believes that government ownership and operation is the remedy for the complexities of the conduct and regulation of business enterprise in modern society should consider these views in the light of the British pattern.

The Executives

The Executives organized to operate, maintain and administer the transport industries of Great Britain are groups each under a chairman who is the chief executive officer. The members of the Executives are appointed, and the chairman is designated by the Minister of Transport. The Executives act as agents of the British Transport Commission under a scheme of delegation made by the Transport Commission and approved by the minister of transport.

Each member of the Executive has been given certain functional or departmental responsibility as well as collective responsibility as a member of the Executive for the operation, management and administration of the transport industries assigned to each Executive.

For example, in the Railways Executive one member has responsibility for public relations, property and taxes, police and stores; another for staff or employee relations, medical and welfare; another for operations; another for commercial freight and passenger work, including cartage; another for engineering and research; and another for communications, signals and architecture. All of the members and the chairman collectively "manage" the industries.

In each of the six regions into which the railways of Great Britain are divided, a chief regional officer who reports the Executive as a whole is responsible for the "general administration" of the region and coordinates the work of the departmental or functional officers in their respective regions. The Executives' authority, it seems clear, has as its source the delegation to it by the Transport Commission of the latter's statutory powers which in turn are derived from the Transport Act, 1947. The Executives' powers are administrative rather than managerial in scope, and in the final analysis the Executives are agents of the commission which are subject to the minister of transport, who is a member of the government and of the political party in power.

The Central Transport Consultative Committee, the Coastal Shipping Advisory Committee, and the Area Transport Users Consultative Committees, provided for in the Transport Act, serve to advise and make recommendations with respect to the national and area needs for transportation and the requirements of industries and areas for transportation services. These committees although advisory make reports and recommendations to the minister of transport in respect to which the minister may give directions to the Transport Commission as he sees fit.

Whatever managerial responsibility the Executives have is delegated to them as agents of the Transport Commission.

The British Transport Commission

It seems necessary to emphasize at the outset that the British Transport Commission is a public corporation and not a government department. Some Socialists of a former generation advocated the government ownership of industries and their operation as departments or branches of the government. No present-day advocate of socialism of first rate importance advocates ownership and operation by a government department, but advocates the creation of wholly publically or governmentally owned corporations. The British Transport Commission is such a corporation. Its responsibilities and powers are conferred upon them by the Transport Act, 1947. Its general duty is to provide an "efficient, adequate, economical and properly integrated system of public inland transport and port facilities."

The language of the Transport Act just quoted and the inferences in other parts of the act appear to warrant the conclusion that Parliament intended to create, in the commission, a separate administrative body with administrative responsibilities and a considerable degree of latitude to deal with the problems of transport at the administrative level, but with certain important powers reserved to the minister of transport. The commission is required to furnish the minister with reports, statistics, statements of account and information required by the minister. It must submit to the minister a report of the performance of its functions and its program and policies. The comprehensive report and accounts for 1948 was addressed to the minister of transport and presented by the latter to Parliament. The commission's responsibilities are statutory, and its authority is restricted to the matters which have to do directly with its responsibilities, but in searching for the body which really controls British transport it is clear we must look farther than the Transport Commission, great as is its responsibilities and broad though its jurisdiction may be.

The Minister of Transport

The broad function of the minister of transport in the administration and regulation of transportation is to protect the rights of individuals and to insure fair play within the industry. Both of these ideas are implicit in the expression the "public interest," the protection of which constitutes the duty of this cabinet officer.

The breadth and depth of the minister's power are extended by the nationalization of the instrumentalities of transport. The minister has the power of appointment of the members of the Transport Commission and the Executives after consultation with the commission. He appoints also the members of the Central Transport Consultative Committee, of the Area Transport Consultative Committees, and of the Coastal Shipping Advisory Committee.

The minister determines which Executives are to be organized, after consultation with the British Transport Commission, and must approve the plans of the Transport Commission of delegating authority to the Executives. He must give or deny consent to the Transport Commission before it acquires transport enterprises. He may direct the commission to dispose of any enterprises it has acquired and to discontinue any of its activities, after consultation with the commission.

The minister has broad powers to direct the activities of the commission. The Transport Act directs that he shall exercise the powers of directing the commission to deal with matters which the minister considers to affect the national interest. The commission's plans with respect to employee training, education and research are subject to approval or disapproval by the ministry. The minister has authority also to give the commission directions with respect to the actions to be taken upon recommendations of the Central Transport Consultative Committee or the Coastal Shipping Advisory Committee. The minister of transport is a rule- or regulation-making executive officer who has statutory authority, making such rules and regulations as those pertaining to: (1) The issue and redemption of British Transport stock; (2) employees' pensions; (3) procedure to be followed in the nationalization of the carriers' properties; and (4) the handling and disposal of property found on the properties of the carriers.

In matters of finance, revenues and charges the powers of the minister of transport are very comprehensive. He may approve, modify or disapprove the plans of the commission which involve the reorganization or development of the nationalized transport enterprises, when substantial capital outlays are involved. He may authorize the commission to acquire land by

the exercise of the power of eminent domain. The borrowing of funds on either long or short terms by the commission must be approved by the minister; and he must consent to the issuance of British Transport stock and make the necessary arrangements for its redemption.

The control of the minister of transport over the revenues of the transportation enterprises administered by the commission is indicated by his power to require the Transport Tribunal to review the commission's plan of transport charges and by authority to authorize the commission to increase charges in the interim between the date of nationalization and the time when the scheme or patterns of charges, which the Transport Act directs the commission to prepare and submit to the Transport Tribunal, go into effect.

The minister has power also to prescribe the form in which the commission's accounts are set up and kept, appoints the auditors who examine the accounts, and approves the scheme of audit.

An analysis of the powers of the minister of transport, even as brief a sketch as is here presented, indicates the scope of his direct and indirect authority. He has: (1) supervisory powers; (2) the power to establish and reorganize and abolish Executives; (3) the power to determine and direct the performance of the functions of the commission, the various Executives, and the Transport Tribunal; (4) the power to direct and control the finances and accounts of the Executives and commission; (5) the power to make rules and regulations directing the operation of the enterprises; (6) the power to interpret the public interest and direct the administration of the transport properties so as to conform to the minister's interpretation of the public interest; (7) the power to review rates and charges for transport services, and initially to authorize their increases; (8) the power to license road transport operations and shipping operations which are not under national ownership; and (9) the power to make grants of financial assistance to highway transport facilities under certain conditions.

These functions and powers are executive, legislative and administrative, and they appear to envelope the lesser powers of the commission, the Executives and the Transport Tribunal, and to be responsible only to Parliament.

The Transport Tribunal

The Railway Rates Tribunal, created by the Railways Act, 1921, to exercise jurisdiction, as a quasi-judicial and quasi-legislative body, over the lawfulness of railway transportation rates and charges, was reorganized by the Transport Act, 1947, as the Transport Tribunal. This body exercises also jurisdiction over the rates and charges of the Railway and Canal Commission. Its mission is to protect the public interest against unjust and unreasonable and unlawfully discriminatory rates and charges with respect to all forms of transport.

It does not control the "management" or administration of the transport services nor does it have the responsibility for preparing the schemes or plans of rates and charges for the nationalized transport enterprises, although the schemes or plans which it is the responsibility of the British Transport Commission to prepare, must be submitted to the Transport Tribunal. After the plans of rates and charges have been submitted to the tribunal, objections may be raised by interested parties or bodies, including the Transport Commission.

The tribunal is required to hold public inquiries at which the commission has the right to be heard. The tribunal is then required to make an appropriate order approving or altering the charges scheme, and order it to become effective. The minister of transport may at any time require the Transport Tribunal to review the operation of any charges scheme and report upon it to the minister.

The limited powers of the tribunal and its subservience to the minister of transport is indicated clearly in the provision of the Transport Act which gives the minister power to exempt the commission's charges schemes from the provisions of the Transport Act with respect to the avoidance of undue preference or similar matters or any other statutory provisions which in the opinion of the minister are unnecessary in relation to the commission or the services and facilities provided by them. This provision has the effect of giving the executive decisions of a member of the government precedence over the legislative powers of Parliament and over the quasi-judicial and quasi-legislative powers of the Transport Tribunal. This power, it should be noted, does not extend so far as to affect the commission's obligation to give the users of the transport facilities reasonable facilities.

Responsibility to Parliament

The nationalized transport enterprises are "administered" by a public corporation, the British Transport Commission, and by the delegation of its authority by the respective agencies. The management and control of the undertakings, it seems clear, is in the hands of the minister of transport.

The minister of transport, as a member of the government, is responsible in several respects to Parliament. The minister is required to submit the annual reports of the Transport Commission, including the financial report, report of activities, statistics and accounts, to Parliament. He must submit to Parliament also the annual reports of the Central Transport Consultative Committee which express the views, suggestions and criticisms of the users of the nationalized transport services. Parliament may debate the reports and the minister of transport must defend it and the actions or failures to act of the commission in Parliamentary debate. The minister, for reasons which are obvious, cannot be familiar with or even aware of many details of the commission's or the Executives' administration. He is not answerable to Parliament for detailed questions, but he is responsible for the general area of transport policy, regulation and administration.

Questions can also be asked of the minister of transport on motion for adjournment of the House and at "Question Time" in the House. There has been debate and there are differences of opinion among members of Parliament as to the degree of detail for which the minister of transport must assume responsibility. Generally he is subject to question upon matters for which he is responsible and not upon matters which are outside the orbit of his responsibility. This answer is only par-

tially responsive to the question. There are broad matters of transport policy, its interpretation and regulation for which the minister is clearly subject to Parliamentary question. At the other extreme there are details of the operation and administration of the transport enterprises which are within the responsibility of the commission and executives for which he is not responsible. Between these two polar zones there are wide zones in which the minister's responsibility to Parliament is unclear. In these zones are many important questions which have important policy considerations. The areas are yet to be clearly defined, although the policy of the present government of Great Britain has been stated:

"In the light of experience so far gained, the government has reviewed the question of replies to Parliamentary questions about the work of socialized industries. . . . Under recent legislation, boards have been set up to run socialized industries on business lines on behalf of the community; and ministers are not responsible for their day-to-day administration. A large degree of independence for the boards in matters of current administration is vital to their efficiency as commercial undertakings. . . . The minister would be answerable for any directions he gave in the national interest, and for the action which he took on proposals which a board was required by statute to lay before him. . . . The boards of socialized industries are under an obligation to submit annual reports and accounts which are to be laid before Parliament. In the government's view, it is right that Parliament should from time to time review the work of the boards, on the basis of the reports and accounts presented to Parliament."* Although this statement has been debated in Parliament it continues to express the position of the British government.

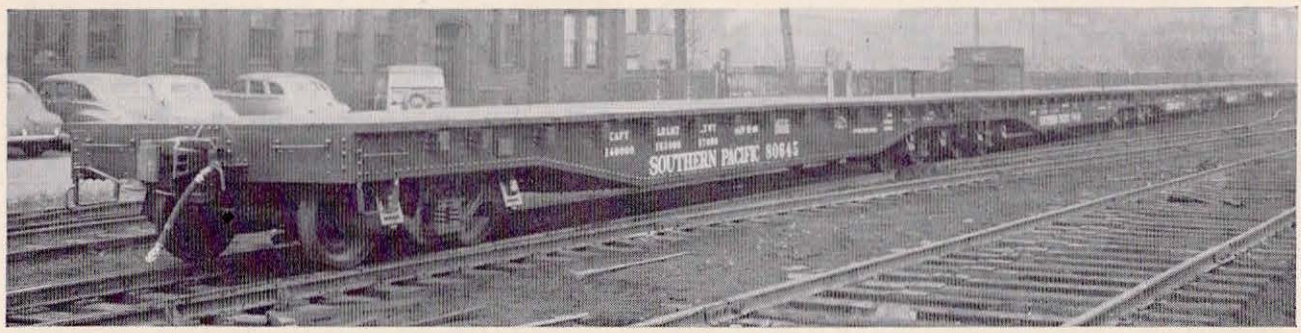
There is a difference of opinion among members of the British labor party, and among socialists generally on the question of the management and control of socialized industries on commercial lines or on a basis of closer administrative control than the government would exercise if the enterprises were not nationalized. There are spokesmen of the labor party and other advocates of socialized industry who take the position that transportation and other nationalized enterprises should be operated by business organizations because of the complexity of the technical problems and the desirability of a considerable degree of managerial discretion. Others take the position that the government through Parliament and the minister of transport should have a closer control and greater responsibility for their administration than in non-socialized business. The two positions are incompatible, and, in the opinion of the present writer, the latter position is not tenable with the practical actualities of socialist government and administration. Transportation industries within the framework of socialism are not "managed," rather they are administered. The Executives and the Transport Commission in Great Britain are more nearly in the position of trustees than managers. By the nature of the organization set up to own and administer the nationalized enterprises the Executives have little managerial discretion and no policy-making authority. Their responsibility is to apply the policies determined for them to the day-to-day routine operations.

The British Transport Commission has somewhat broader and more comprehensive responsibility but even its powers do not amount to managerial authority or policy-making power, as these responsibilities are understood in the management of enterprises in a non-socialistic economic structure.

The Transport Tribunal does not function within the field of management or policy-making, but only in one aspect of regulation—rates and charges—and in this field its authority is circumscribed by that of the minister of transport. The Consultative Committees are clearly advisory and informative, and have no share in making policy or in management, excepting as their recommendations and suggestions are accepted and activated by the minister of transport.

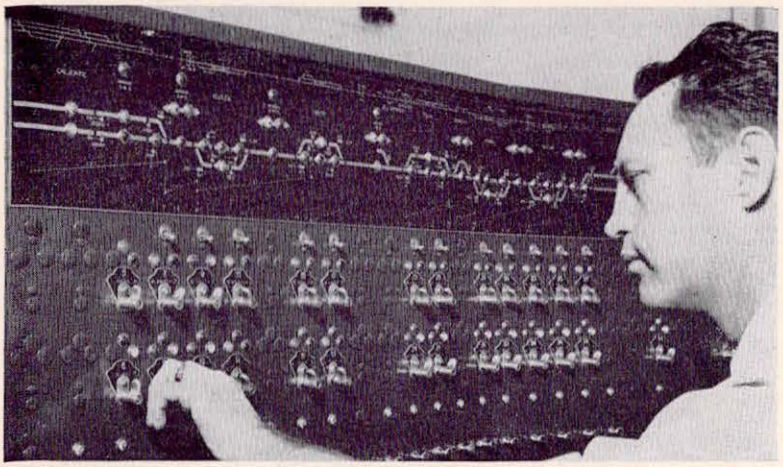
By a process of inexorable deduction it is clear that the real manager and policy-maker in the British Transport undertakings is the minister of transport. Some of his authority is exercised by delegation and his responsibility is subject, within certain areas, to criticism and questions by Parliament. He is a member of the government and a cabinet minister, as well as a member of the political party which dominates Parliament. His support must come, like that of other cabinet ministers, from the Parliamentary majority. It follows that the management of the nationalized transport industries in Great Britain and the policies which underlie the program of management must be in harmony with the politics of the party in power. The transport industries must take their places in the socialized economic pattern of the country, and the program of their development must, it seems to the present writer, be political rather than commercial.

*Excerpts of statement of the Lord President, December 4, 1947, as reported by Sir Gilmour Jenkins, Secretary, Ministry of Transport, in *The Relations Between the Ministry of Transport and the British Transport Commission*, Journal, Institute of Transport, London, Vol. 23, No. 6, September, 1949, pp. 170-171.



A few of 500 flat cars, recently built by the American Car & Foundry Co. for the Southern Pacific

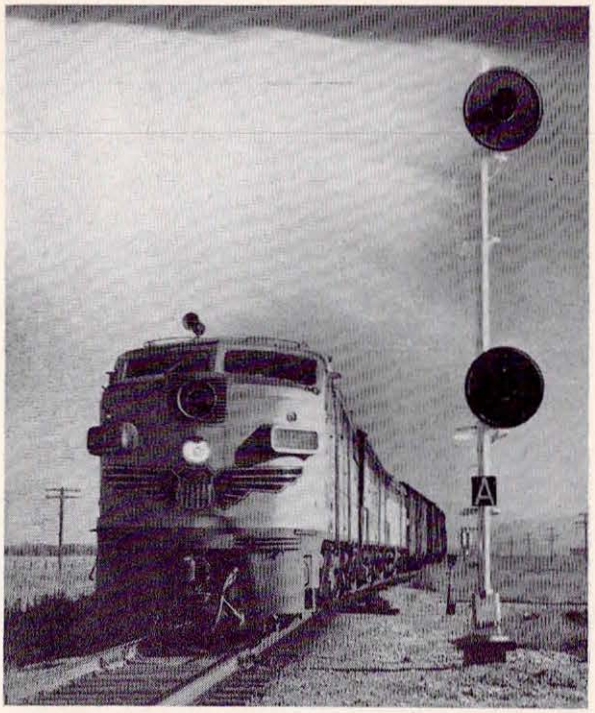
Union Pacific Equips 625-Mile Line with C. T. C.

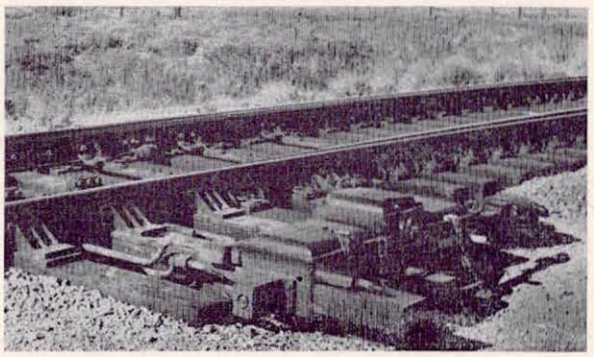


Train operation by signal indication an important help in saving train time—Stock trains average 39.4 m.p.h. and a passenger train 66.5 m.p.h. over a subdivision with long 0.8 per cent grades

Left—Dispatcher at Salt Lake City controls signal at Caliente, 24 mi. distant. Below—A typical siding, with power switch machine and C.T.C. controlled searchlight signals. Bottom—Siding switches are operated by dual-control electric switch machines

On its route to Los Angeles, Cal., the Union Pacific has completed an installation of centralized traffic control on 324.5 mi. of single track between Salt Lake City, Utah, and Caliente, Nev., which is connected at Caliente with a similar installation extending to Daggett, Cal., 300.9 mi., completed in 1943, so that now the entire 625.4 mi., in one continuous section, is operated by signal indication under C.T.C. control. Between Daggett and Riverside, Cal., 100 mi., the Union Pacific operates over a double-track section of the Santa Fe. On the Union Pacific between Riverside and Los Angeles, centralized traffic control is now being installed on 50 mi. of single track and 7.7 mi. of double track. This will completely equip all the single track with C.T.C. between Los Angeles and Salt Lake City. The main route of the Union Pacific eastward from Salt Lake City to Omaha is all double track.





Grades and Curves

From Salt Lake City, the railroad extends westward on the flats about 14.8 mi. to Lake Point. Except for some rolling grades for 14 mi., between Stockton and Ajax, the line then ascends westward at an average of 0.8 per cent for 60 mi. between Lake Point and Boulter. Then it descends at an average of 0.8 per cent westward for 25 mi. to Champlain, with rolling grades for 10 mi. between Champlain and Lynndyl, which was a subdivision point. Between Lynndyl and Milford, the railroad traverses a high plateau with short rolling grades and relatively few curves. Also, from Milford west to Tomas, 70 mi., the railroad continues across this plateau with light rolling grades. From Tomas to Crestline, 12 mi., the line ascends westward at grades ranging up to 1 per cent. Between Crestline and Caliente, 34 mi., the line follows a canyon route, with grades descending westward ranging up to 2 per cent and numerous curves ranging up to 10 deg., and because of these

Geographical position of the 805-mi. line between Salt Lake City and Los Angeles

grades and curves the train speeds are limited. Faster speeds are practicable on the more open plateau between Lynndyl and Tomas.

Twenty to Thirty Trains Daily

Between Salt Lake City and Caliente four through passenger trains are operated in each direction daily. These include the streamliner "City of Los Angeles," which is scheduled at an average speed of 66.5 m.p.h. westbound and 69 m.p.h. eastbound on the 207 mi. between Salt Lake City and Milford. This territory includes the long 0.8 per cent grades mentioned above.

As a result of the rapid increase in population in Southern California, the preponderance of freight traffic between Salt Lake City and Caliente is westbound, and consists primarily of livestock, dressed meats and manufactured products. Westbound livestock train No. 299 is scheduled to leave Salt Lake City at 12:30 p.m. daily and to make the run of 821 mi. to Los Angeles in 27 hr. This train is made up exclusively of stock cars, almost all of which are special Union Pacific cars with roller bearings. The first section of this train handles up to 75 cars and frequently a second section is operated. On the 207 mi. between Salt Lake City and Milford, this stock train makes an average of 39.4 m.p.h. Two westbound time freights, scheduled daily, handle merchandise and other fast freight. The eastbound traffic consists of fruits, vegetables and other agricultural products, as well as some manufactured products. In addition to the through trains, three ore trains are operated each direction daily between Lund and Lynndyl, 124.5 mi. Each consists of about 75 cars, which are loaded eastbound and empty westbound.

Previously the sidings between Salt Lake City and Caliente were spaced 4.5 mi. to 5.5 mi. apart. Experience on other sections of single track on the Union Pacific handling 20 to 25 trains daily, where C.T.C. had been installed, coupled with an economic study of this territory, proved that train movements could be expedited so that numerous sidings would be eliminated. Accordingly, when planning the installation of C.T.C. between Salt Lake City and Caliente, 21 sidings were eliminated. At 16 of these locations single sidings were removed, and at one location, where there were two sidings, one was removed. Also, at four towns, the previous single sidings were shortened or converted to spurs with one switch only, and are to be used only as industry tracks. Between Warner and Stockton, 3 mi. of second track was removed, except for a short siding at a midpoint, Bauer.

At the locations where power switches and signals were installed in the C.T.C. system, the sidings were lengthened to hold at least 122 cars, and some will hold as many as 137 and 143 cars. One objective in making these changes was where practicable to avoid adverse grades for trains pulling out of sidings. At Bloom, for example, the siding was moved 3 mi. west to get it off a 0.6 per cent grade and in practically level territory. At Strong, the siding was moved 3 mi. to get it off a grade. As a part of the track improvements, new No. 14 turnouts with 24-ft. switch points were installed at the ends of the power sidings.

In Salt Lake City, the line westward from the passenger station makes a junction at Buena Vista with the freight line from North Yard. This junction is 4.4 mi. from the yard and includes power switches at two crossovers and at the west end of the siding. Counting this siding at Buena Vista, there are 26 C.T.C. power-operated sidings between Salt Lake City and Milford. Also at Lynndyl, which was formerly an intermediate terminal, there is a yard which, in effect, includes three power-operated sidings. At Milford, the yard entrance switches at both ends are power operated and included in the C.T.C. Between Milford and Caliente, 117 mi., there are 14 single sidings, in addition to double sidings at two locations—Lund and Modena—all of which are power operated in the C.T.C. system.

Of importance is the fact that the power switches and signals at sidings for authorizing train movements on the entire 324 mi. between Salt Lake City and Caliente are all controlled from an office at division headquarters at Salt Lake City. Due to the length of the territory and the number of controlled points involved, it was divided into six sections. This was accomplished by the use of coded carrier equipment so the entire territory could be controlled on two code line wires.

Previously, when train movements were authorized by timetable and train order with automatic block, there were three dispatching districts: Salt Lake City-Lynndyl, 120 mi., dispatched from Salt Lake City; Lynndyl-Milford, 89 mi., dispatched east from Milford; and Milford-Caliente, 118 mi., dispatched west from Milford. In the new system there are two C. T. C. control machines in a new fire-proof building at Salt Lake City. One 15-ft. machine controls the 120 mi. between Salt Lake City and Lynndyl, and the second, a 17.5-ft. machine controls the 205 mi. between Lynndyl and Caliente.

The new C. T. C. system, including power siding switches and signals to authorize train movements under

the direct control of the dispatchers, is now an important aid in expediting train movements. The power switches eliminate train stops formerly required to permit trainmen to operate hand-throw switches. This time saving makes it possible for a train of about 80 to 100 cars to depart from one siding, run to another siding and enter it in 12 to 15 min. less time than when the hand-throw switches were used. This time saving is adequate in many instances to permit a train to be advanced one or more sidings, beyond where it otherwise would have had to wait.

Previously, the dispatcher had no close check on the exact location of trains and could not anticipate their progress, nor could he quickly change orders to take advantage of changing conditions. As a consequence, trains lost time waiting on sidings when vacant track and time were available to advance these trains, simply because there was no adequate means of directing them to proceed. Now the dispatcher is informed of the location and progress of each train by means of the lamps on his C. T. C. control panel. He is able to control the signals to direct trains to advance, and thus make close meets. A further important advantage of the C. T. C. is that trains can be directed to depart from terminals when they are ready to go. Previously, when operating by train orders, if a train was not ready to go when expected, further delay was required to prepare and issue new orders.

As explained by the division superintendent, G. A. Cummingham, the C. T. C. signaling, in practice, is as simple as the stop-and-go traffic signals on city streets. The trains just keep going or they take siding or leave siding according to the signal indications, In numerous instances, trains make meets without either train being required to stop. The C. T. C. system is the coordinating element that makes it possible to use the motive power effectively, i. e., to keep the trains in motion at the maximum permissible speeds throughout a very high percentage of the time they are on the road. One result is that the freight trains get over the division in several hours less time than previously. For this reason, it was practicable to extend runs and thus eliminate two intermediate terminals for engine crews and freight train crews.

Formerly, one run was between Salt Lake City and Lynndyl, 117 mi., and the next run was between Lynndyl and Milford, 89 mi. Now these are combined to make one of 207 mi. between Salt Lake City and Milford. Previously, there was one run between Milford and Caliente, 117 mi., and a second run of 125 mi. between Caliente and Las Vegas. Now the run is between Milford and Las Vegas, 243 mi. By thus eliminating Lynndyl and Caliente as intermediate terminals, the time formerly lost in train stops, changing crews, etc., is being saved. The use of Diesel-electric locomotives, better track and the C. T. C. have all contributed to save enough time overall to extend these runs.

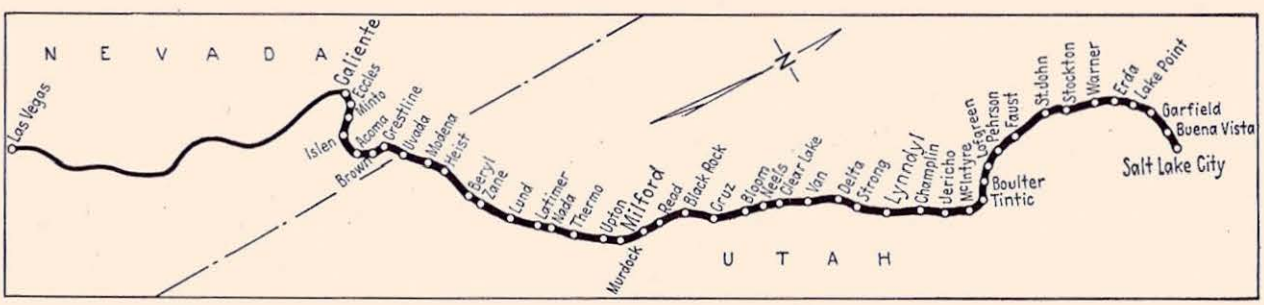
Furthermore, as explained by the division superintendent, the operation under C. T. C. is even safer than it was by timetable and train order with automatic block. The C. T. C. concentrates the engineman's attention on the signals, rather than on reading orders and checking his timetable and watch. Also, the C. T. C. eliminates accidents that might be the result of errors, in issuing, transmitting, reading and obeying written orders, in reading timetables and in checking watches. An important factor contributing to safety is that the signals controlled by the dispatcher normally display the Stop aspect, and the circuits are interconnected in the field so that only one of two opposing signals can be cleared. Therefore, in C. T. C., if a signal displays a proceed aspect when it is not supposed to, no opposing or conflicting signal can be cleared.

Rock Slide Fences

At numerous locations through the canyon east of Caliente, there are rock-slide detector fences to detect slides and falling rocks that may obstruct the track. When a rock or slide strikes one of these fences, signals in each direction are set at the most restrictive aspects, and an indication is sent in to light a corresponding lamp on the dispatcher's C. T. C. control machine.

When a train is stopped at a signal affected by slide fence operation, the train crew determines the cause and clears the track, if necessary and practicable. If no obstruction has occurred, a trainman resets the slide fence tripping device, and the passage of the train by track-circuit operation restores the fence and signal controls to normal. If track obstruction or damage is serious, the track crew, signal men and other forces are called, as required. After repairs have been made and the slide fence tripping device has been reset, the fence and signal controls can be restored to normal by operating push buttons located at the signals affected.

This installation of C. T. C. was planned and installed by Union Pacific forces under the direction of T. W. Hays, general signal engineer. The major items of signaling equipment were furnished by the Union Switch & Signal Co.



Locations of sidings on the 324-mi. line between Salt Lake City and Caliente

To Get New Capital, Railroads Need New Federal Policy

By ELISHA M. FRIEDMAN
Consulting Economist

Since 1939, railway passenger fares have increased 26 per cent for the entire country and 44 per cent for the East. But the cost of materials purchased by the railroads has increased over 100 per cent and wages have almost doubled.

The Interstate Commerce Commission does not bear the risk of failure in its decisions. The risk falls on the stockholder and the responsibility falls on the management. The policy of the I.C.C. has been, generally, to concede lagging and niggardly increases. The return on the investment is insignificant in boom years. Industrial corporation profits for the years 1946 and 1947 were the greatest on record, but the railroads earned only 3.10 per cent on the net investment after depreciation. The rate of return for the four years, 1945 to 1948, was about 3.6 per cent. What a shocking reflection on the I.C.C.! These were years of phenomenal traffic, about double the prewar years 1938-39. What will be the earnings in the next depression?

For the period 1926-45, the railroads earned an average return of 3.54 per cent under I.C.C. regulations, but public utility companies regulated by over 40 state commissions were allowed 6.43 per cent. In the depressed 1930's, the risky railroad business earned 2.22 per cent, or less than the rate on riskless United States government bonds, while public utilities earned 6.26 per cent. Obviously there is something wrong with a method of regulating railroad rates which produces such evil results.

Monopoly (!) Regulation

From 1916 to 1947, ton-miles increased by 182 per cent, passenger-miles by 133 per cent, property investment by 128 per cent, annual wages by 296 per cent, the hourly wage rate by 352 per cent. But net earnings declined to 75 per cent, the percentage of return declined to 59 per cent and the dividends declined to 77 per cent. What sort of rate regulation is that? Let the I.C.C. answer.

Railroad rates are set by the I.C.C. on the theory that the railroads have a monopoly of transportation. The present rate-making policy was legislated in 1906, actually in the days of the horse-drawn buggy, car and truck. These constituted no competition to the railroads. The gas and Diesel engine replaced the horse and diverted traffic from the railroad. But the I.C.C. lives in bygone days.

The diversion of traffic from the railroads, feared by the I.C.C., is a genuine danger. But it is superficial thinking to look at rates alone as the cause. The competitors of the railroad, namely the bus, automobile, airplane and the waterways, are all subsidized by the government.

What are the remedies? The law must be changed. The discretionary power of the I.C.C. as to the effect of a rate on the volume of traffic should be eliminated. This is a managerial function. The law should restore the requirement of the 1920 act, repealed in 1933, that the railroads are entitled to a fair return. The I.C.C. should follow the precedent of the state commissions and the courts, which have granted returns twice that allowed by the I.C.C.

If the average return is to be fair, then the peak return in prosperity should be high to offset the return in depression years when it inevitably is low. Current government policy has been tested and found wanting. A new approach is necessary. Congress should legislate a fair return and reduce regulation in such a highly competitive industry.

The reduction in passenger fares recommended by the I.C.C. minority is a superficial approach to the problem. It deals with symptoms instead of causes. Any attempt to deal with selling prices must involve consideration of costs.

The problem requires an independent investigation by an impartial fact-finding body. The Brookings Institution could do this job. Perhaps some fund like the Falk Foundation could finance such a study. It would undoubtedly result in constructive proposals in the national interest.

Featherbedding Hurts

Vast sums are involved. Of railroad gross operating revenue of $9.6 billion in 1948, total wages are about 50 per cent. If labor waste were eliminated and road crews paid by the hour instead of by the mile, based on 1875 speeds of 100 miles per day, costs could be substantially reduced. Then freight and passenger rates could be corresponding lower. Furthermore, if the managers were not blocked by union rules, it would be possible to effect important economies, by consolidation, by coordination and by new equipment, like one-man cars, gasoline or Diesel, offering combination of freight and passenger service at frequent intervals, to further reduce costs and rates.

The dual basis of pay must be eliminated or modernized. Men should be paid for work done. There should be no pay for work not done. Featherbed rules are illegal under the Taft-Hartley Act which does not apply to railroads. The Railway Labor Act of 1926 must be amended to afford them similar protection. On the basis of pay for a 40-hour week for road employees, and on airways, waterways and most bus and truck lines, railroad costs would be substantially reduced and a host of overpayments due to featherbedding would disappear.

An investigation should include an anlysis of (1) the policy of the I.C.C. since 1920 with reference to its statutory duties and powers and the financial consequences; (2) the changes in our national economy and the effect on the railroads; (3) the practices of the unions with reference to wages and labor costs, to the increase in the number of cases of featherbedding and in the amount of payments awarded as referees' decisions continuously open new loopholes, and to how new cases entered the docket faster than old cases were decided until a five-year backlog culminated in the Missouri Pacific strike; (4) competition and the effect on the shipper and the investor; and (5) the policies of federal, state and local authorities with reference to subsidies to highway, airway and waterway transport, discrimination and unequal competition, unequal taxation, excess crew laws and abandonment of unprofitable lines.

Such an anlysis would show that from 1916 to 1948 wages rose from $1,469 million to $4,763 million while dividends declined from $306 million to $289 million. In 1916 dividends constituted about 21 per cent of wages and in 1948 about 6 per cent. An increase in dividends by 50 per cent would cost only 3 per cent of total wages and an increase of 100 per cent in dividends would cost only 6 per cent.

Such increased dividends, however, would make it possible to raise new moneys through common stock issues again for the first time since 1929, to modernize equipment, to increase efficiency, to lower costs, to meet competition and to maintain jobs on the railroads. A 6 per cent saving in labor costs would easily be possible with the cooperation of the railroad unions in abandoning featherbed rules, restrictive labor practices and by having the states repeal the excess crew laws enacted under union pressure.

This article is adapted, by permission, from a letter to the Editor of the Washington (D. C.) Post.

Someone must furnish new money continuously to enable the railroads to serve the people. The present policies brought practically no new money for over 20 years. Indeed the present policy resulted in the confiscation of over two billion dollars of stocks and junior bonds by the I.C.C. in the recent railroad bankruptcies. Britain under socialism nationalized the railroads but paid the investors a reasonable price for their secuities. But the United States, under private enterprise, wiped out securities owners in bankruptcy. Obviously, American government railroad policy for 20 years proved ruinous. A fundamental change is required—and promptly.

Communications . . .

Railroad Passenger Service

CHICAGO

TO THE EDITOR

The plight of the railroads with respect to the tremendous loss in their passenger business is a serious matter for both the railroads and the unions, whose interest in correcting it should be mutual. The railroads need the passenger traffic and the employees need the jobs, both of which are slipping away — and the defection will grow under present conditions. Recently the press reported that one large Class I railroad is considering the abandonment of all its passenger-train service.

There is no use in railroad managements or union officials trying to fool themselves. Millions of potential railroad passengers each year are permanently lost through the postwar increase in the ownership of private automobiles which their owners will use whenever possible in both local and long-distance travel.

The railroads are losing much of their "first class" business to the airplanes with which they can never compete from a speed standpoint on any trip over 200 miles, even allowing for the time of the airplane passenger going to and from the airport. Railroad coach passengers are going to buses, largely influenced by cost.

Railroad passenger earnings are going down and down and costs up and up. New Diesel engines and passenger equipment have increased the railroads' debt and still passenger business is decreasing. Granting that Diesels are more economical from an operating standpoint, why not use lighter and less costly engines and cars? Capital costs will then go down, with a large saving in interest and depreciation.

The following suggestions are made for thoughtful consideration:

1. Lengthen schedules. This will reduce costs and risks and, more important, will give passengers more comfort. Complaints are growing over the vibration and swaying of modern lightweight trains, which contribute to present loss of passengers. With slower schedules, more trains would maintain their "on time" records. All passengers hate to be late. Dining car service would regain its pleasure, a thing it has lost due to speed cancelling the former comfortable service. Passengers could relax more in the daytime and sleep better at night.

2. Negotiate with employees for a change in basis of pay for passenger crews. It is perfectly silly to require four-and five-man crews on present local trains. Crews should be figured on the average load carried and it is suggested that something like the following would be adequate:

Less than 100 daily through passengers average — one engineer and one conductor.

100 to 150 daily through passengers — an engineer, conductor, and brakeman.

150 to 200 daily through passengers — two men on engine, a conductor and brakeman.

200 and over daily through passengers — two men on engine, conductor and two brakemen.

(Arrive at "through passenger" basis by dividing total passenger miles by train's main line mileage.)

Buses, in competition with railroads, handle from 40 to 70 passengers with one man, who not only collects tickets and handles baggage, but takes all of the road risks.

Change the out-moded railroad basis of paying for 100 or 150 miles on runs of less than eight hours' work and also paying excessive mileage rates for only four or five hours' work. Labor should be fair and willing to give a reasonable day's work for a good day's pay.

3. Cancel structural requirements of Association of American Railroads for 800,000 lb. compression tests on passenger cars. This test, developed in days of heavy equipment, is now outmoded. Why not be realistic and permit the railroads to operate cars that are adequately strong for normal conditions and not unduly dangerous in wrecks? Buses and airplanes are not built for wrecks and the former have no such stringent structural requirements, and yet in any day's operation they have thousands of risks of collision to one risk on a railroad.

4. Management and unions work hard to get the government to remove the so-called "luxury tax" from tickets. The war is over. Travel is a "luxury" now only on account of its high cost. The railroads have always paid huge sums of taxes to federal, state and local taxing authorities. Railroads collect income taxes from employees though they get no pay from the U. S. Government for work performed by their clerks in this connection.

The above are subjects for thought toward reduction in the cost of travel which the public wants and the railroads need if they are honestly desirous of maintaining their passenger business.

FORMER RAILWAY EXECUTIVE

For Fighting Advertising

SOUTH BEND, IND.

TO THE EDITOR:

In a recent Saturday Evening Post there is a full page advertisement of the American Trucking Associations. In my own opinion, the ad is full of half-truths, for of course trucks can haul cheaper when they practically buy rolling stock alone. After reading that ad, I wondered and still wonder why more railroads don't do what the Southern Pacific has done relative to half-truth advertising by West Coast air lines; what the Boston & Maine did a couple of years ago, "You've Been Working on an Airport" (re $50 million tax-supported Boston airport). Let the railroads come out of their ethical and sweet "institutional" advertising and run hard-hitting, fighting ads. Tell the public who supports schools, builds roads, etc., and tell it truthfully, often and hard.

I am told that some years ago the Keeshin truck outfit in my town was criticized because they "took money out of town." The story goes that for three weeks Keeshin paid all local employees in silver dollars and that the resulting publicity quieted the criticism and incidentally gave Keeshin a boost. Railroads could do that, particularly in smaller cities and towns.

In the end what must be stressed is what the railroads do *for* the public—one doesn't buy a car merely because it has an L-head engine, but because it takes the buyer about safely, swiftly, comfortably, conveniently.

ALEX. L. H. DARRAGH
Member, Railway & Locomotive Historical Society, Inc.

Wheel Slip and Passenger-Train Braking

Slipping, a third state of adhesion, is found to be stable within limits—The functions of wheel protectors

By C. L. EKSERGIAN
Executive Engineer and Assistant to Vice-President, Budd Company

Over the past 10 years the Budd Company has carried on investigations with the Burlington, Santa Fe, Milwaukee, and Pennsylvania in an effort to obtain factual data on wheel slip. Examination of conditions limiting adhesion has been made, in an effort to find means of raising its level and to provide protection against wheel slide.

With respect to breaking level, the benefits from wheel protection alone are secondary. If the brake is designed to develop an effectiveness factor of, say, 14 per cent—providing for a free car deceleration of 3 m.p.h. per sec.—then the adhesion required is likewise 14 per cent. Although this adhesion is commonly present with dry rail, such a braking level could not be accepted without wheel protection because of the occasions in which lower adhesion may prevail.

For example, an investigation conducted last winter on two of the Burlington's disc-braked "Zephyrs" revealed that the adhesion under adverse weather dropped to lower than 7 per cent—or less than half that prevailing normally. Holding the effectiveness to 7 per cent means limiting the maximum deceleration to 1½ m.p.h. per sec., which of course is untenable. Faced with the alternative of no wheel protection, it follows that under such rail conditions slide is almost inevitable in emergency, and altogether likely in service.

Breakaway tests conducted on the Milwaukee with the Rolokron disclosed that the retardation with wheels sliding under sustained lock was less than with continued interruption caused by successive dumping of brake-cylinder pressure. From 49.5 m.p.h. the distance was 1,340 ft. when only one pair of wheels was sliding and 1,240 ft. with two pairs of wheels continuously dumping. Thus one pair of wheels sliding extends the stopping distance more than two pairs of wheels continuously dumping. Certainly as opposed to slide, dumping is the lesser of the two evils. This comparison was obtained with dry rail.

Though wheel protection alone warrants raising the effectiveness somewhat for dry rail, on wet rail this higher level can be detrimental. For if the adhesion is markedly lower than the brake effectiveness, the elevated braking level increases the frequency of dumping and accordingly lowers the net resulting retardation. Even though such dumping is better than sliding, the retardation rate with wheel protection alone and a poor rail cannot be tolerated when recourse to sanding can be had.

Sand can restore wet-rail adhesion to that of dry rail, thereby giving a double improvement in retardation over the wet rail and continuous dumping. The full 14 per cent adhesion is realized with the curtailment incident to infrequent interruption.

By providing sand stations at each truck and employing the wheel protector as a detector, sanding of (and only of) the particular truck involved may be initiated at the instance of slip. Thus sand is called for only when and where required, thereby making its use most effective. To restrict consumption further, the time of flow may be limited to a few seconds in anticipation of an improvement in adhesion which frequently occurs.

In this system, sanding is automatically initiated at every truck station under an emergency application, irrespective of the rail conditions. Because of the infrequency of emergency applications and the benefits derived from advanced sanding (when required), the waste attending those occasions not requiring assistance can easily be justified. This manner of sanding has been adopted on various main-liners, and appears to be winning favorable acceptance.

Since the effectiveness of the brake system to produce the desired retardation is finally limited by adhesion, studies have been made of the fundamentals involved and the influence of significant factors. The system embraces not only the brake *per se* but elements of control, including wheel protection and sanding.

Adhesion may be regarded as existing under three states of behavior: namely, rolling, slip, and slide.

Under rolling, the wheel tread engages the rail surface without relative movement between the increment contacting areas so that the adhesion is static.

Slip occurs while the wheel is rotating and when movement takes place between the successively new contacting areas. As slip begins the velocity is low but the wheel r.p.m. may be high and as the angular velocity of the wheel reduces, the slip velocity rises and reaches a peak when the wheel becomes locked.

At this instant, the state becomes one of slide. Here maximum velocity of engagement results and is equal to the linear velocity of the train.

Rolling

Because under true rolling adhesion is static, it should remain independent of speed. Actually since the retarding force at the rail is the product of the instantaneous wheel load and adhesion, adhesion alone does not limit deceleration.

If the instantaneous retarding force is referred to the

This article is taken from a paper presented at the annual meeting of the Air Brake Association at Chicago on September 21.

nominal wheel load, so that the "effective adhesion" becomes the retarding force actually produced divided by the static wheel load, then it is seen that even under true rolling effective adhesion may vary with speed as well as with truck and roadbed constants. Note that whereas "effective adhesion" becomes a handy index, it does not represent true adhesion.

Many factors which at first glance appear extraneous can have an appreciable bearing upon the effective adhesion obtainable. Unbalanced wheel assembly, when the out-of-phase approaches 180 deg., tends to produce axle oscillation about the vertical axis and incipient slip. Eccentric wheels produce momentary unloading and a corresponding drop in effective adhesion. High spring rates produce instantaneous variations of load thereby reducing the momentary, but equally critical, effective adhesion. Weight transfer, in reducing the load on the trailing axle, lowers the effective adhesion for this axle which is as restrictive on braking effectiveness as the unloading of all axles. With a standard truck and effective adhesion of 16 per cent, the change in axle load is roughly 10 per cent. Thus for this case, the true adhesion on the trailing axle is actually 10 per cent higher, or about 17.5 per cent.

In the recent adhesion studies conducted on the Pennsylvania, in the preponderant cases with dry rail, the trailing axle was the first and often the only one to slip—as would be expected. With wet rail, however, the leading axle was often critical, in which case the true adhesion is lower than the effective adhesion.

Beyond the truck factors which affect rolling adhesion, brake torque characteristics may be consequential. If the torque is erratic or fluctuates excessively (as in the case of chatter) then the peaks which rise above the mean called for are likely to exceed adhesion limits, and thereby induce slip.

From Rolling to Slip

It has been generally assumed that immediately upon the breaking of the static friction lock, the adhesion drops abruptly and begins to level off as soon as any appreciable velocity (of slip) is attained. Because the drop is great, as well as abrupt, it has been regarded that once slip begins, it continues until slide is reached. Actually however, when a wheel rolls, some degree of incipient slip is present more often than not. Thus the rolling state is in fact more frequently one of slip, but of a minute order.

In recent wheel tests conducted by the Association of American Railroads on the Pennsylvania with the Budd research car and personnel, it was observed that the ratio in angular velocities between two axles varied appreciably at times. Differences in wheel diameters on the two axles could account for the corresponding ratio but not for a change in ratio. Differences in velocity ratio were traceable to either change in wheel diameter or slip. These findings were supported by an independent series of observations made during wheel protector tests conducted a year ago by the Budd Company on the Burlington.

That the wheel should slip while presumably rolling is explainable. When a pair of wheels, locked to an axle, rolls in the trough of tangent track, their lateral position is determined by the point of common rolling radii. Although the flanges take the larger lateral reactions, they hardly contact the rail while rolling in the trough.

It follows that this state of lateral equilibrium is preserved longer, the wider the band of common radii. Lateral shift from this plane is brought about by lateral forces overcoming lateral adhesion. If the lateral shift causes the rails to contact unequal radii, slip is likely to ensue while the wheels endeavor to resume rolling on their new radii. As rolling is established, the wheels "steer" back to the trough.

This steering of the axle produces a similar turning effect upon the truck frame. Due to the inertia of the large masses involved, over-steering is likely to obtain, thereby resulting in nosing. Nosing is chiefly, if not entirely, brought about by this steering effect, in contrast to direct lateral slide. If the lateral movement takes place purely through slide, the extent of damping present in the form of adhesion precludes any self-induced effect. This presence of slip in rolling can account for the fluctuations in adhesion levels encountered.

Slip

Although knowledge of behavior under incipient slip is limited, there are indications that the drop from static friction is small with dry rail. The reason may be traceable to the short duration of the slip brought about by the return of the wheel to rolling, so that the effect of the slip is only partial. Also, the velocity of slip is likely to be very low in such short intervals.

In recent tests by the Budd Company, in cooperation with the Pennsylvania, electric odometers were used to give an accurate picture of wheel action under slip on both disc- and clasp-brake trucks. Although the rate of deceleration attained and the time consumed for build-up were both influenced by the type of brake and the particular rail adhesion at hand, rates of better than 500 r.p.m. per sec., were attained in less than ½ second. Usually, nearly maximum deceleration is reached in this first interval, showing that the major drop in adhesion has taken place. At the end of this interval, the slipping velocity is a matter of about 10 m.p.h. Thus it takes little slipping velocity to bring about the major drop in adhesion. Beyond 15 m.p.h. higher velocities cease to be significant and further drop in adhesion becomes inconsequential.

Under sustained application with the disc brake the coefficient of brake friction remains constant, so that once the minimum value of the coefficient of adhesion is reached, the wheel continues to decelerate at a constant rate until slide is reached. With dumping, the deceleration of the wheel is arrested and acceleration follows.

Under sustained application with the clasp brake, the early deceleration is approximately the same. As the wheel approaches zero rotation, however, the clasp-brake friction climbs to a peak. Consequently, with the clasp brake, a final maximum deceleration is reached at the end of rotation and the total elapsed time for the wheel to cease rotating from the same speed of travel is considerably shorter than for the disc brake.

Wet rail does not alter the above behavior of either brake. Since deceleration is a matter of difference between brake and rail torque, the absolute value of either is not significant as long as the difference remains the same. Although the static adhesion level of wet rail is markedly lower than that of dry rail, so also is the

kinetic friction correspondingly lower. Accordingly, the difference, and therefore the deceleration, remains the same. The same situation holds for the sanded rail except that the difference takes place on a higher level.

Limiting Adhesion

The only time when static friction becomes the limiting factor is when the wheel is stationary, such as at start. Here slip is absent and adhesions from 20 to 25 per cent are common. While the wheel is rolling, the effective adhesion (dry rail) drops considerably, averaging between 14 per cent and 17 per cent. This is due to the presence of incipient slip and change in wheel loading. Only by shear or slip between the surfaces momentarily engaging can a change in adhesion take place.

Therefore, the state which defines the maximum torque that can be withstood is not one of rigid definition, but rather one subject to fluctuation, depending upon the degree of instantaneous slip present.

It has been usual to regard slip as a totally unstable state which, once entered, promptly results in slide. On this basis, there would exist two values of adhesion: static and kinetic. On the contrary, we may conclude that there exists a limiting level for incipient slip. If taxed below this critical value, adhesion stability is maintained even though slip prevails. However, if overtaxed, the adhesion drops and the slip increases until the end-point conditions of slide are reached.

Changes in surface conditions may cause the adhesion to drop and the slip to increase. On the other hand—and this possibility has not been so readily recognized—an improvement in rail condition can result in raising the adhesion. With the same torque continually applied, the per cent demand upon the total available adhesion is less, with the result that slip is reduced or eliminated and the correction which follows may be regarded as "self-recoverable." If, on the other hand, slip has reached such proportions that any nominal change which may be encountered is unlikely to augment the adhesion sufficiently to meet the imposed torque, the continued deceleration to slide is called "nonrecoverable."

Improvement in rail conditions is obviously as likely under slide as under slip. With the disc brake the effect of this improvement is the same for slide as for a fully slipping wheel, because the disc-brake friction remains constant irrespective of wheel r.p.m., in fact, whether the wheel is rotating or not.

This behavior has been visually observed upon various occasions. The presence of "chain spots" constitutes testimony of this effect. In such instances the wheel has slid for a brief interval, sufficient to produce a small flat. Upon subsequent improvement in adhesion, the wheel has either resumed rolling or turned sufficiently to present a new surface for engagement.

The duty of the wheel protector is, first, to become alert to the presence of slip; second, to determine whether the slip is recoverable or nonrecoverable; third, if nonrecoverable, and only if so, immediately to dump brake-cylinder air to permit the wheel to resume rolling; and finally, to restore application quickly, but not until rolling conditions have been fully recovered. If sanding is employed with protector control, it also becomes the duty of the protector to initiate sanding at the time dumping is effected.

Originally, it was believed that the protector should act at once upon the attainment of deceleration greater than could accompany rolling. However, if the protector acted solely upon this basis, dumping would ensue for recoverable slips as well as nonrecoverable. This would result in an appreciable amount of unnecessary interruption.

On the other hand, if the delay deliberately imposed for determining the course of travel (to rolling or to slide) is too great, then slide is courted, particularly for the low-speed applications.

It has been found that, for the disc brake, slide may occur within one second or less after the initiation of slip from 20 m.p.h. With the clasp brake the time period is even shorter. Accordingly little time is available for exhausting the brake cylinders, so that any imposed delay over that which is inherent, must be kept to a minimum. Fortunately, the damaging effect of such slow-speed momentary slide is inconsequential, so that it may be tolerated in favor of unnecessary interruption in the more prevalent higher-speed operation.

There is one cardinal rule which holds for all wheel protectors. Once air release has been determined as necessary, it should be performed as fast as possible.

Two general schools of thought prevail on restoration. One calls for complete exhaust and delaying reapplication until full wheel rotation is established, at which time it is restored as quickly as possible. The other holds that brake-cylinder pressure should be reduced to a minimum and immediately thereafter be slowly restored while the wheel is endeavoring to return to rolling. It is preferable to have no impediment present in the form of even partial brake torque, in order that the wheel r.p.m. can not only be restored quickly but also fully. Because of the demands upon adhesion imposed under reapplication, it is highly important that the wheel be in the best possible state, i.e., rolling. Even so, recognizing that the poor rail causing the initial dump can still prevail, repetition is not to be unexpected. The only way reliably to safeguard against such repetition is to initiate sand upon the first response of the protector.

Wheel Protector Operation

Although all wheel protectors are designed to perform the duty above outlined, the method of accomplishment differs. There exist at present two fundamental approaches. The operation of the A.B.S. Wheel Controller is based upon the comparative behavior of the two axles of the same truck. This philosophy contemplates the unlikelihood of both pairs of wheels slipping at the same time, so that the one which does not becomes the basis of reference. When a given angular out-of-phase is reached within a predetermined time interval, dumping is initiated. Note that action occurs upon the attainment of a mean velocity within a given time interval. Indirectly the behavior of this device is a function of deceleration.

The Westinghouse Decelostat and the Budd Rolokron respond to wheel deceleration. This is accomplished by keeping a free running mass (flywheel) of known polar moment of inertia in phase with the axle through a preloaded calibrated spring drive. When the preload—set for critical deceleration—is reached, the ensuing deflection of the spring initiates dumping.

With the Rolokron, response, control, and actuation of the four-way dump valve is performed electrically. Upon attainment of critical deceleration, a pilot circuit is closed which in turn closes a secondary circuit which energizes the solenoid dump valve. The pilot circuit is closed by contactors responding, respectively, to deceleration and acceleration for a given direction of travel.

Upon deceleration to nonrecoverable slip, the pilot circuit remains closed until the air is sufficiently exhausted to discontinue deceleration. The pilot circuit at this point opens, but the secondary circuit is held closed (and the valve open) through a time relay for a predetermined period following the opening of the pilot circuit.

With exhaust remaining open, the wheel accelerates under the action of the rail adhesion and in so doing recloses the pilot circuit through the acceleration contactor. This circuit remains closed until the wheel ceases to accelerate as it reaches normal rolling. An additional time-relay delay obtains before restoration of the air pressure.

It will be observed that the successive lags serve two independent functions. The first lag (between deceleration and acceleration) provides sufficient time for completing exhaust. If such lag were not present, reapplication could precede acceleration (particularly from low speed) with the result that the wheel could become locked. Slide would continue, for under this state neither acceleration or deceleration would occur and therefore release would not be called for. The lag following cessation of acceleration, or the return to the rolling state, assures against reapplication occurring prior to the reestablishment of full rolling adhesion. Because of this precautionary dwell, unnecessary repetitive dumping is averted, and interruption is minimized accordingly. During the exhaust and reapplication periods, partial braking obtains.

Preliminary Test Results

Although the adhesion studies which have recently been conducted by the Budd Company in cooperation with the Pennsylvania have not as yet been completed, sufficient data have been collected to warrant comment. These tests were run over a period of several weeks with a special test train including a Pennsylvania dynamometer car and the Budd research car, which had one truck equipped with the Budd disc brake and the other with clasp brakes. The Budd Rolokron was employed for dumping and sanding. Draw-bar pull, brake-cylinder pressure, Rolokron action and angular travel of the wheels were simultaneously recorded against time so that all records were related.

It is to be emphasized that the remarks herein are of a preliminary nature and should be regarded as an indication of trend of behavior until further confirmation is procurable.

1—Although variation existed in dry-rail adhesion, the values obtained over a large number of readings were surprisingly close: 90 per cent of the readings fell within a variation of less than 10 per cent. This holds for both the clasp brake and the disc brake regardless of train speed.

2—Between 20 to 60 m.p.h., dry-rail adhesion with the disc brake approximated 17 per cent, speed having little effect in this bracket. However, when the speed was increased to 80 m.p.h. there appeared to be a slight drop to 16 per cent.

3—Dry-rail adhesion with the clasp brake appeared to follow substantially the same pattern, but its torque capacity at high speed was generally insufficient to utilize the adhesion prevailing. Therefore, it was not possible to obtain a representative spread of limiting adhesions.

4—Tests were not conducted above 80 m.p.h., so the influence of very high speed was not ascertained. It is well known that track disturbance may increase rapidly above 80 m.p.h. so that speed could become an influential factor in this bracket when inconsequential at lower speeds.

5—The effect of rate of application between time periods of one second to ten seconds was not found to be influential upon ahesion for either the disc or the clasp brake.

6—Unfortunately an unusual dry spell prevailed during the test. Wet rail artificially obtained by directing a stream of water ahead of the wheels produced a wide range of results due to the difference in effectiveness. However, it was possible to obtain good comparative conditions with a wet rail produced by dew. It is to be pointed out that comparative results obtained with such wet rail applies to this degree of wetness.

Under such conditions, the adhesion level for both the disc and the clasp brake approximated 7 per cent. There was no significant difference, for as low readings were obtained with one as with the other, and the average of all readings taken for each brake differed less than 9 per cent.

7—Sand increased dry-rail adhesion approximately 30 per cent with the disc brake. Resulting adhesion approximated 22 per cent. However the effectiveness of the sand is markedly dependent upon its actual delivery to the wheel. Although little difference was observed through the middle speed bracket, indicating that delivery was maintained, adhesions in the higher-speed bracket dropped to approximately 20 per cent.

8—Due to torque limitations it was not possible to develop sufficient torque to exceed sanded dry-rail adhesion obtained with the clasp brake, except in a limited number of cases. Accordingly the number of readings obtainable is not regarded as sufficient to draw conclusions.

9—At speeds of 60 m.p.h. and less and dry rail, sanding was about equally effective whether the sand was applied at the truck being braked or at the forward truck. At 80 m.p.h., however, sanding at the forward truck improved adhesion very little on the trailing truck, because most of the sand was blown away before the trailing truck reached it.

10—Whereas the benefits of sand are relatively small with dry rail, with wet rail sand is highly beneficial. For a quick appraisal it may be said that sanding a completely wet rail raises the adhesion nearly to that of non-sanded dry rail. Wet rail adhesions of 7 per cent were restored to approximately 14 per cent by the application of sand.

11—Whereas speed and location of the sand station were influential factors with dry rail, their effect was diminished with wet rail. Once sand is applied to the rail, it tends to adhere to the water film.

GENERAL NEWS

"Apathy" Led to British Nationalization

Economists discuss causes, evils of government operation

The nationalization of railways in Great Britain was made easier for those who vigorously advocated it by the apathy of many who opposed government ownership and operation, G. Lloyd Wilson, professor of transportation and public utilities at the University of Pennsylvania, said in New York on December 28 to the transportation and public utilities section of the annual meeting of the American Economic Association. Speakers at the section included Professor Wilson and E. Grosvenor Plowman, vice-president, traffic, of the United States Steel Corporation, who presented a joint paper appraising nationalized transportation in Great Britain, and Charles L. Dearing, of the Brookings Institution, Washington, D.C., who discussed the reorganization of transport regulation in the United States. Presiding over the section meeting was Sidney L. Miller, professor of transportation at the University of Pittsburgh.

Shippers, Owners, Public All Apathetic

British shippers were singularly apathetic or even indifferent to the threat of nationalization of transport, Professor Wilson said.

"They did not protest vigorously nor did they present in any effective way the reasons that must have been clear to them as to why nationalization would not be good from their viewpoint. Only a few shipper spokesmen pointed out that nationalization was inimical to the interests of shippers.

"The owners of British railway securities were likewise apathetic. There is evidence that some of the groups of investors were not displeased by nationalization because of increased security of their income, although they did protest that the rate of interest originally proposed to be paid—2½ per cent—was inadequate, and that the amount they were paid in exchange for some of the securities was too low. When the interest rate was raised to 3 per cent and some adjustments were made in the exchange prices, their objections became less strenuous. . . . .

"The public, more or less 'fed up' with poor service and deteriorating equipment, was likewise apathetic or sympathetic toward nationalization. Public opinion was somewhat unfavorable to railroad management. . . . The Conservative party in its present campaign does not propose to undo nationalization of railroads although it does propose the return of trucks to private management, decentralization of management of the railways, and the return of highway passenger transportation either to local governments or to private enterprise."

Six Causes for British Nationalization

Professor Wilson listed six primary causes for the nationalization of transportation in Great Britain: (1) Failure of railways to work out internal integration of their services and operations; (2) failure of previous governments and the railways and motor carriers to work out and provide satisfactory joint or coordinated services; (3) the ever increasing complexities of railway rates and charges; (4) failure of railways to develop personnel and employment practices, particularly systems of promotion, which railway employees considered fair and equitable; (5) the apprehension that the railways would be financially unable to rehabilitate and improve their properties; and (6) the apparent concern of security owners chiefly in the amount of compensation to be paid them for their securities. "All these are sore spots in the transportation industry which must and can be avoided or corrected by improvements in transportation services and cooperation between railroad and industrial management, under government regulation, if socialization of transport in this country is to be avoided," he added.

Labor Control Equals Poor Service

British nationalization is still too new to do more than point out trends that prove existence of the already well-known defects inherent in socialized business enterprise, Mr. Plowman said in his portion of the joint paper.

"For this reason, a brief summary of Mexican railway management in 1942, 1943 and 1944 is pertinent. This summary indicates clearly how difficult it is to overcome the theoretical management faults of socialization of business . . . Mr. O. M. Stevens, for many years a United States railroad operating officer and now president and general manager of the American Refrigerator Transit Company, spent several years in Mexico as consultant to the National Railways of Mexico. . . . Mr. Stevens found that the service of the railways, both freight and passenger, was poor, characterized by irregular schedules, chronic lateness of trains, inadequate car supply and the blockade of terminals with cars and freight which remained in the ports and terminals literally for months. . . .

"Stevens lays the responsibility for this deplorable state of railway transportation to the facts that the politicians of Mexico have permitted the railway

Reproduced above is another of the Southern's striking two-color freight claim prevention posters, with a special holiday motif. It is one of a series being used as part of the railroad's campaign to reduce freight loss and damage

system to be run by the labor unions. The management of the railways is dominated by the union leaders and even minor supervisory employees have no control over the men nominally under their supervision and direction. Superintendents, yardmasters or foremen who reprimand employees for work failures are overruled by the local unions. These lower echelon executives and supervisors are also union members. . . . Mr. Stevens estimates that with 8,300 miles of railway mileage with a traffic density of about 20 per cent of that of a comparable United States railway system, there are 56,000 railway employees, about 30,000 more than are needed to operate the system efficiently. . . . Wage increases are demanded frequently and as frequently given by a government helpless before the threats of labor—then a corresponding freight rate increase intensifies the inflationary spiral. Nevertheless, wages are very low, in comparison with American pay scales."

Mr. Stevens' conclusion, Mr. Plowman continued, "is that the economic situation of the nationalized railways of Mexico is hopeless and helpless unless union management is renounced and the railways taken over by 'good, able management, composed of honest men, trained and experienced in railroad work —men loyal to their country and who have a decent regard for the just rights and problems of labor.' Such a change could change the National Railways of Mexico, 'in a few years, from the worst railroad system on this continent to a place among the best.' The best such management would be private enterprise management."

The national government's regulatory program appears to be deficient in at least three respects, Dr. Dearing said. "Functions are improperly allocated between independent commissions and executive agencies," he continued, "regulation has not been adapted fully to the competitive era, and promotional programs threaten to undermine the basic concepts and applications of public regulation."

"Some of the most critical defects of national action in the field of transportation arise because the results of subsidization run counter to the objectives of regulation," Dr. Dearing went on. "Continuation of this situation threatens not only to undermine the moral foundation of public control but tend to make competition unworkable. From the outset the statutory requirement that public carriers shall charge only 'fair and reasonable' rates has constituted the core of public regulation . . . . Yet government transport subsidies have introduced an insidious type of discrimination. In effect, government-created discrimination has been substituted for that formerly exercised by private monopoly. Such discrimination arises because the government distributes its financial aids unevenly among regions and types of carriers . . . . We must conclude, therefore, that if Congress wishes to correct this situation, it must assess against the user rather than against the general taxpayer the major cost of providing transport facilities. This is required not only to give integrity to the concept of public regulation but to make possible the maintenance of workable competition."

"It should be noted," Dr. Dearing concluded, "that the nation's shippers and political leaders apparently do not want outright government ownership. Nevertheless, it appears that the drift in that direction will continue unless Congress finds the will and means to restore a workable balance between the powers of government on the one hand and the responsibilities of private enterprise on the other. National policy makers cannot expect private enterprise to supply indefinitely the necessary managerial drive and new capital in an environment that bristles with contradiction, uncertainty and apparent hostility."

Twenty-three representatives of seven eastern and southern railroads attended the two-day course held December 6 and 7 by SKF Industries, Inc., in Philadelphia, Pa., on service inspection of Diesel-electric traction motor bearings. J. J. Ekin, Jr., lubrication supervisor of the Baltimore & Ohio (second from left) and N. W. Sitton, general foreman of the Southern's traction motor shop in Atlanta, Ga., get some first-hand instruction from F. S. Ball, SKF railway engineer

Gass Sees More Freight Car Orders

Present car supply "generally adequate," C.S.D. head says

"Preliminary advices indicate the possibility that ordering of new freight cars may be resumed in greater volume within a short time," Chairman Arthur H. Gass of the Car Service Division, Association of American Railroads, said in his latest review of the "National Transportation Situation." Because the supply of all types of cars is now generally adequate, Mr. Gass did not expect that December repair programs would increase the serviceable ownership; but he suggested that "there is nothing about the bad order situation that a sustained increase in traffic would not cure."

Figures in Mr. Gass's report showed that 135,982 freight cars were awaiting repair on December 1, an increase of 51,785 cars above the December 1, 1948, total. Since the total ownership increased during the 12 months period by 7,373 cars, the net drop in the number of serviceable cars was 44,412.

Car Service Rule 18 Effective January 1

Meanwhile, the C.S.D. chairman had given first place in his review to a notice calling attention to the fact that the new Car Service Rule 18 becomes effective January 1, 1950. The rule will make the loading road responsible for repairs to the interior of cars caused by misuse of good cars in loading commodities which contaminate them. Mr. Gass solicited the cooperation of shippers "to the end that use of good cars for the [contaminating] commodities may be eliminated."

Coming to his discussion of equipment conditions by types of cars, Mr. Gass noted how the labor situation in the coal industry has kept the mines on curtailed production schedules, and thus the supply of hopper cars has remained "easy" with most roads reporting surpluses. While he was unable to predict when the mines might be able to resume normal production, he said when that time comes the demand for coal cars will be "very heavy."

As to bituminous coal production, Mr. Gass said that the 1949 output would be about 425 million tons, a drop of 30 per cent below the 1948 total of 600 million tons. Production of anthracite is expected to be off 25 per cent.

Meanwhile, settlement of the steel strike has resulted in "steadily increas-

ing" demands for gondola cars, but only a "few spot shortages" have been reported. As to plain flat cars, Mr. Gass anticipated no supply difficulties until the spring movement of agricultural machinery gets under way.

At the same time, he reported that requirements "have never been heavier" than they are now for heavy-capacity flats and those of the well and depressed-center types. As to that situation, Mr. Gass made this appeal: "We must again ask for the cooperation of all concerned to expedite loading, movement, and unloading to the fullest possible extent in order that shipping responsibilities will be met on a reasonable basis."

As to covered hoppers, the C.S.D. chairman reported that loadings of such cars have remained above the 1948 loadings. He called the box car situation generally "satisfactory," blocked elevators having "nearly disappeared." And he said that the supply of both auto and device cars has been "ample," and that all orders for stock cars and refrigerator cars are being filled currently.

No Special Orders Outstanding

In noting that Special Car Order No. 54 was cancelled November 26, Mr. Gass called attention to the fact that there are now no special car orders outstanding with respect to box cars of U.S. ownership. Order No. 54 had required the expedited return home of box cars owned by the Great Northern, Northern Pacific, and Union Pacific. "With the cancellation," Mr. Gass said, "the importance of handling box cars in accordance with the Code of Car Service Rules was re-emphasized."

The report's figures on turn-around time of freight cars showed that the average for all cars was 17.76 days in November, as compared with 14.34 days in November, 1948. The figures on freight-car detention indicated that the number of cars detained beyond the free time in November averaged 21.59 per cent of the number placed. This was based on checks made in 7 of the 13 Shippers Advisory Board districts, and it compared with 15.84 per cent for November, 1948.

I.C.C. Order Gives Railroads First Call on Fuel Coal

Acting on the basis of information indicating that an "emergency" existed, the Interstate Commerce Commission on December 23 issued Service Order No. 844, under which railroads may obtain first call on fuel coal produced by their usual suppliers. The order, issued as the labor dispute left the coal mines on curtailed production schedules, became effective at 12.01 a. m. December 24 and is scheduled to expire 11.59 p. m. on February 25, 1950.

It provides that any railroad having less than nine days' supply of fuel coal for locomotives and not having a "dependable" source of supply and deeming it necessary to increase its supply shall certify that fact to Director Homer C. King of the commission's Bureau of Service. Upon receipt of the certification, the order continues, Director King "shall satisfy himself as to the facts and shall thereafter direct the railroad or railroads serving a mine from which locomotive fuel is supplied to the railroad making such certification to supply cars to that mine for the loading of coal for said certifying railroad and no cars may be supplied said mine for loading of other than railroad locomotive fuel coal in grades called for by railroad purchase order unless and until the tonnage of locomotive fuel coal supplied to the certifying railroad in any week equals the average supplied such railroad during the period from November 14 to December 12, 1949."

Up to the afternoon of December 28, the fifth day after the order became effective, Director King had received no certifications under it.

I.C. Commissioner Miller Dies

Interstate Commerce Commissioner Carroll Miller died at George Washington Hospital in Washington, D. C., on December 24. He was in his 75th year,

Selected Income and Balance-Sheet Items of Class I Steam Railways in the United States

Compiled from 127 reports (Form IBS) representing 131 steam railways‡
(SWITCHING AND TERMINAL COMPANIES NOT INCLUDED)

Income Items	United States For month of September 1949	1948	For the nine months of 1949	1948
1. Net railway operating income	$63,537,629	$103,467,186	$478,464,503	$722,156,910
2. Other income	15,197,309	16,070,965	151,364,580	158,593,211
3. Total income	78,734,938	124,538,151	629,829,083	880,750,121
4. Miscellaneous deductions from income	2,705,224	5,517,214	26,948,507	49,313,373
5. Income available for fixed charges	76,029,714	119,020,937	602,880,576	831,436,748
6. Fixed charges:				
6-01. Rent for leased roads and equipment	11,076,074	11,680,410	89,460,771	99,260,400
6-02. Interest deductions[1]	23,310,391	22,790,102	210,195,290	204,860,074
6-03. Other deductions	212,400	167,297	1,777,481	1,350,311
6-04. Total fixed charges	34,598,865	34,637,805	301,433,542	305,470,785
7. Income after fixed charges	41,430,849	84,383,128	301,447,034	525,965,963
8. Other deductions	3,300,195	2,987,975	28,456,992	28,672,929
9. Net income	38,130,654	81,395,153	272,990,042	497,293,034
10. Depreciation (Way and structures and Equipment)	34,037,349	31,073,519	296,211,682	271,861,286
11. Amortization of defense projects	1,375,359	1,331,726	12,197,861	12,511,690
12. Federal income taxes	28,031,722	49,343,614	199,161,182	316,389,885
13. Dividend appropriations:				
13-01. On common stock	10,900,016	17,769,139	128,349,201	124,853,166
13-02. On preferred stock	1,191,961	2,935,405	45,675,227	42,211,221
Ratio of income to fixed charges (Item 5 ÷6—04)	2.20	3.44	2.00	2.72

Selected Expenditure and Asset Items	United States Balance at end of September 1949	1948
17. Expenditures (gross) for additions and betterments—Road	$241,066,983	$233,915,178
18. Expenditures (gross) for additions and betterments—Equipment	748,484,259	610,470,523
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	525,892,324	529,683,264
20. Other unadjusted debits	130,336,482	148,617,164
21. Cash	726,327,620	900,459,496
22. Temporary cash investments	751,477,274	979,922,649
23. Special deposits	103,980,785	114,514,039
24. Loans and bills receivable	2,542,084	12,764,636
25. Traffic and car-service balances—Dr.	43,862,404	55,533,816
26. Net balance receivable from agents and conductors	128,525,865	136,677,263
27. Miscellaneous accounts receivable	275,983,831	356,524,421
28. Materials and supplies	776,707,718	810,370,889
29. Interest and dividends receivable	16,034,467	19,009,074
30. Accrued accounts receivable	159,282,659	181,217,369
31. Other current assets	37,113,663	41,769,876
32. Total current assets (items 21 to 31)	3,021,838,370	3,608,673,528
Selected Liability Items		
40. Funded debt maturing within 6 months[2]	$121,560,093	$145,304,223
41. Loans and bills payable[3]	5,788,203	3,150,000
42. Traffic and car-service balances—Cr.	81,272,193	98,443,786
43. Audited accounts and wages payable	419,993,973	527,297,791
44. Miscellaneous accounts payable	207,891,552	252,952,468
45. Interest matured unpaid	40,459,980	40,954,549
46. Dividends matured unpaid	21,095,949	20,717,643
47. Unmatured interest accrued	74,432,473	73,605,461
48. Unmatured dividends declared	15,568,159	22,834,485
49. Accrued accounts payable	160,140,015	178,336,239
50. Taxes accrued	663,960,407	743,135,569
51. Other current liabilities	88,728,289	95,857,608
52. Total current liabilities (items 41 to 51)	1,779,331,203	2,057,285,599
53. Analysis of taxes accrued:		
53-01. U. S. Government taxes	480,355,944	568,696,519
53-02. Other than U. S. Government taxes	183,604,463	174,439,050
54. Other unadjusted credits	267,623,849	293,332,660

d Decrease, deficit, or other reverse item.
[1] Represents accruals, incuding the amount in default.
‡ Excludes Missouri & Arkansas Ry. Co. Road not in operation. Also excludes Missouri-Illinois and Missouri Pacific whose reports were not filed due to strike effective Sept. 9, 1949.
[2] Includes payments of principal of long-term debt (other than long-term debt in default) which becomes due within six months after close of month of report.
[3] Includes obligations which mature not more than one year after date of issue.

and had been ill with pneumonia for about two months.

Mr. Miller was appointed to the I. C. C. in June, 1933, by the late President Franklin D. Roosevelt, and served as its chairman during 1937. At the time of his death he was chairman of the commission's Division 3, which handles rates, service and safety matters.

"Q" to Complete $8.5 Million Commuter Service Changes

Five new 2,000-hp. Diesel-electric locomotives have been placed into suburban service within recent weeks by the Chicago, Burlington & Quincy and an additional five such locomotives are scheduled for delivery in January, 1950, Harry C. Murphy, president of the Burlington, has announced. Mr. Murphy said that the road's $8,500,000 program to improve suburban service will be completed in 1950 (see *Railway Age* of February 19, pages 46 and 51). Thirty-nine all-steel suburban coaches have already been modernized and air-conditioned, with 40 more being turned out at the rate of one a week. Thirty new stainless steel gallery cars, under construction, are scheduled for delivery beginning in May, 1950.

Consolidated Station Out, Say Chicago Roads

Improvement of three existing terminals on Chicago's south side, together with cooperation from the city in development of street improvements and openings, offers the "only general and basic solution of the so-called 'passenger terminal problem' that can be founded on sound economics and in the best interests of the public and railroads alike." This statement—contained in a report handed to Chicago's Mayor Martin H. Kennelly on December 23—is, in effect, a rejection by 14 railroads of three previously suggested plans which advocate consolidation of the city's south side passenger facilities.

The report was submitted by Fred G. Gurley, president of the Atchison, Topeka & Santa Fe and chairman of the South Side Railway Terminal Committee, on behalf of the roads using Dearborn, LaSalle and Grand Central stations. It further amplifies the committee's report of August 27, 1948, which stated that the cost of a consolidated terminal would be more than the railroads could pay and that the solution lies in modernizing existing stations (see *Railway Age* of September 4, 1948, page 52). The Illinois Central is not a party to the report, it having submitted a consolidation plan of its own last October (see *Railway Age* of October 29, page 56). The report states, in part:

"The railroads consider that terminal developments predicated upon two south side stations, or a single station, cannot be economically justified and fail to give due consideration to the realities of present and prospective passenger travel trends. The trend of passenger business is such as to fail to justify any agency, public or private, incurring the huge expenditures that would be involved. . . . It is impossible to presently forecast what the total cost of a consolidated terminal might be, but it is safe to assume that the expenditures, including the attendant changes in freight facilities, would involve amounts in excess of $200,000,000 of everybody's money, including street openings and improvements.

"It is the experience of railroad officers that the principal interest of the passenger patrons is for a comfortable ride, suitable equipment, on-time performance, and reasonable station accommodations, such as the railroads are offering. The ideal and the monumental should not be presently considered.

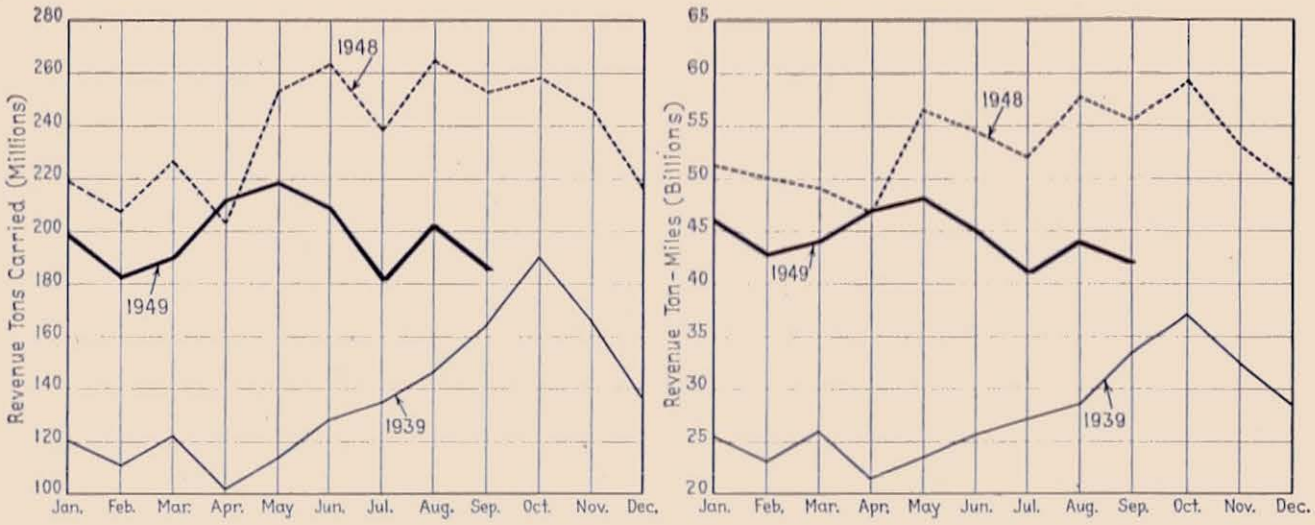
"The railroads cannot be insensible to competition from the publicly subsidized transportation on the highways and in the air so far as passenger business is concerned and likewise from the highways, airways and waterways in connection with freight and express shipments.

"There have been expressions to the general effect by representatives of the city that the consolidation, upon which they look with favor, would produce increased efficiencies in railroad operation and resulting savings in expenses. . . . It is the experience and the judgment of railroad management that the consolidation would not reduce expenses, but, on the other hand, would result in increased expenses.

"Suggestions have been made as to the creation of a 'Terminal Authority,' or other legislative procedure. It must be understood that the fundamental concept of such an 'Authority' is tax exemption and substantial financial participation by public bodies. They cannot justify their existence otherwise. Furthermore, any such solution would be a step toward socializing the railroads, which is to be deplored."

In connection with the report, Mr. Gurley referred to one of the suggested consolidation plans wherein is stated

Inauguration in New York's Grand Central Terminal of public address system broadcasting of music, news and commercial announcements developed unexpected opposition from a small minority of the terminal-using public, which led to recent hearings before the Public Service Commission of New York. Reproduced above is the cover of a four-page leaflet issued by the New York Central, which explains that revenue from the broadcasts is needed to meet greatly increased terminal operating expenses, including a $10 million annual payroll and a city tax bill of nearly $1.5 million a year—the largest tax bill paid on any single piece of property in New York City. The leaflet further explains that only 11 per cent of all persons covered in a recent survey objected to the broadcasts



Revenue tons and revenue ton-miles—1949 compared with 1939 and 1948

that the "real problem of terminal consolidation is one of financing." Said Mr. Gurley:

"It is not primarily a question of financing—it is a question of economics. When economics are right, financing will follow—it always has. In my judgment the financial institutions of our country are now in splendid condition to finance economically sound improvements. If, on the other hand the economics are not right, then financing should not occur. It is my further opinion that transportation projects which are not properly founded for private financing should not be financed by public funds—the demands upon public funds already exceed the current income."

Railway Suppliers Called Upon To Fight "Creeping Socialism"

Spurred by galvanic words from four business executives vitally interested in halting the trend toward nationalization of the railroads, a group of Chicago railway supply men on December 28 appointed a committee to advise upon some definite program within their industry for combating policies which are blamed for this threat. The speakers at a luncheon meeting where this action was taken were R. A. Williams, president of the Standard Railway Equipment Company, Donald Conn, executive vice-president of the Transportation Association of America, J. P. Kiley, operating vice-president of the Chicago, Milwaukee, St. Paul & Pacific, and Samuel O. Dunn, chairman of the Simmons-Boardman Publishing Corporation and publisher of *Railway Age*. The meeting was a direct result of the recent "Freedom Dinner" held in Chicago, at which was outlined measures for scotching the trend toward a socialistic state (see *Railway Age* of December 3, page 55).

The keynoting address was prepared by Mr. Dunn and delivered by William H. Schmidt, transportation editor of *Railway Age*. (The complete text of this address appears elsewhere in this issue.)

Mr. Williams told the railway suppliers that "we are not doing our part" in resisting the trend toward nationalization of the railroads. He advised those present to see that their companies become members of the T.A.A., which is spearheading the drive to thwart socialization. He pointed out that 76 per cent of the association's membership is made up of users of transportation, but that railway suppliers comprise less than 1 per cent of that group.

Mr. Conn outlined the growth and progress of the T.A.A. from an initial gathering of 37 business leaders in Chicago in 1934 to an organization with 8,900 corporate members and 12,000 individual members. He explained what he called a "two-headed" program being carried out by the T.A.A., involving: (1) education against socialism by some 125,000 "grass roots" leaders in towns from 400 to 10,000 persons and (2) the negotiation by some 500 experts of the economic and legislative issues of the transportation problem.

Mr. Kiley spoke briefly, declaring that, in his opinion, the problem of encroaching socialism should also be attacked by guiding the education of youth. He observed that little is done to assure that school textbooks do not include socialistic teachings, and asserted that teachers are not investigated thoroughly enough in this regard.

Freight Car Loadings

Freight car loadings for the week ended December 24 were not available as this issue of Railway Age went to press.

Loadings of revenue freight for the week ended December 17 totaled 639,723 cars, and the summary for that week as compiled by the Car Service Division, Association of American Railroads, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, December 17

District	1949	1948	1947
Eastern	117,413	140,554	155,969
Allegheny	129,099	153,787	173,244
Pocahontas	44,782	61,811	68,570
Southern	114,144	132,215	138,252
Northwestern	70,254	80,134	90,572
Central Western	106,872	118,072	138,625
Southwestern	57,159	67,979	66,896
Total Western Districts	234,285	266,185	296,095
Total All Roads	639,723	754,552	832,130
Commodities:			
Grain & grain products	44,626	48,577	45,760
Livestock	10,775	11,479	11,956
Coal	126,476	160,260	192,720
Coke	11,579	15,277	15,572
Forest products	37,741	42,672	44,945
Ore	11,305	13,990	16,689
Merchandise l.c.l.	79,611	93,681	112,561
Miscellaneous	317,610	368,616	391,927
December 17	639,723	754,552	832,130
December 10	668,825	782,913	854,159
December 3	693,923	804,172	878,588
November 26	664,555	722,936	792,331
November 19	758,972	858,089	902,662
Cumulative total 50 weeks	34,790,804	41,525,519	43,215,406

Representation of Employees

The Switchmen's union of North America will continue as Railway-Labor-Act representative of yardmen (conductors, brakemen and switchtenders) employed by the Chicago Great Western. It defeated by a vote of 171 to 147 the challenging Brotherhood of Railroad Trainmen, according to results of a recent election which have been certified by the National Mediation Board.

(Additional General News appears on page 58)

ORGANIZATIONS

R. E. Coleman, passenger traffic manager of the Baltimore & Ohio, has been elected president of the **Skal Club of North America, Inc.**, Chicago chapter. Membership of the organization is composed of top passenger men from the railroads, air lines and steamship lines. Other new officers are: Vice-president, W. A. Scheeder, vice-president, Parmelee Transportation Company; treasurer, Leslie Valder, manager, midwestern sales area, British Overseas Airways; and secretary, T. B. Graves, northern passenger agent, Texas & Pacific. Railroad men included among the directors are A. D. Martin, general passenger traffic manager, Chicago, Rock Island & Pacific, and E. B. Padrick, chairman, Western Passenger Association and Trans-Continental Passenger Association.

SUPPLY TRADE

Charles R. Ellicott, resident vice-president of the **Westinghouse Air Brake Company** at New York, will retire, effective January 1, from his position with that company, but will continue business activity as a manufacturers' associate, with office at 30 Broad street, New York. He will be associated with the **Ellcon Company,** manufacturers of rolling stock specialties, and the **National Brake Company,** producers of power hand brakes. Mr. Ellicott was born in Chicago on November 13, 1880, and

Charles R. Ellicott

was educated at the Hopkins Grammar School and the Sheffield Scientific School of Yale University, from which he was graduated in 1902 with the degree of B.S. in electrical engineering. He then entered the service of Westinghouse Air Brake as an apprentice in its shops at Wilmerding, Pa., specializing in the brakes of electrically propelled vehicles. Thereafter he advanced through the engineering department of the company to the position of mechanical expert in the company's New York Office, being promoted later, respectively, to the positions of representative, eastern manager and resident vice-president. He was the organizer of the Ellcon Company and is a director of the Safety Car Heating & Lighting Co. Mr. Ellicott has been active in committee and other work in a number of professional organizations, among them the American Transit Association, the Railway Business Association, and the American Society of Mechanical Engineers.

Kenneth I. Thompson, Eastern sales manager of the **Oxweld Railroad Service Company,** a unit of **Union Carbide & Carbon Corp.**, has been appointed general sales manager, effective January 1, 1950. Mr. Thompson was born in Bridgeport, Conn., in 1905, and after graduation from Staunton Military Academy, Staunton, Va., started his

Kenneth I. Thompson

business career with the Pennsylvania Pump & Compressor Co. as a salesman. He was later connected with Fuller Lehigh Company. Before joining Oxweld in 1945, Mr. Thompson was associated with the Ingersoll-Rand Company for a number of years, his last position being Western manager of the railroad department.

Clifford F. Hood, president of the **American Steel & Wire Co.**, a subsidiary of the **United States Steel Corporation,** has been elected president of the **Carnegie-Illinois Steel Corporation,** another U. S. Steel subsidiary. Mr. Hood will assume his new duties on January 1. He succeeds **Charles R. Cox,** who resigned to become president of the **Kennecott Copper Corporation.** Mr. Cox succeeds as president of Kennecott Copper the late **E. T. Stannard,** who recently died in an airplane accident in Canada. **Harvey B. Jordan,** vice-president in charge of operations of American Steel & Wire in Cleveland since 1939, has been elected president, also effective January 1, to succeed Mr. Hood. **James E. Lose,** vice-president in charge of operations of Carnegie-Illinois Steel, has been elected to the newly created position of executive vice-president.

A. R. Lillicrapp, W. G. Genné and **A. J. Nolan** have been elected vice-presidents of the **Dixie Cup Company.** Mr. Lillicrapp, who joined the staff shortly after that company was founded, also continues as treasurer, a post he has held for many years. During his association with the firm Mr. Lillicrapp has

A. R. Lillicrapp

been manager of railroad sales, established and managed the export department and served as vice-president of the Dixie Cup Company (Canada), Ltd. Mr. Genné joined the company 25 years ago as a salesman and has been, successively, New York sales manager, regional sales manager and sales director.

W. G. Genné

Mr. Nolan has held many positions with Dixie Cup during the past 16 years, including those of market research manager, assistant to the president, and director of product research and development.

In addition to the new officers the company announced the following changes in staff assignments: **W. O. Roe,** appointed assistant to **C. F. Dawson,**

president; **B. J. Kearney** and **Richard W. Koch,** appointed assistants to **C. L. Van Schaick,** executive vice-president; **R. E. Stocker,** appointed assistant development

A. J. Nolan

director in charge of engineering research and **S. L. Muther,** named general works manager in charge of production operations in all plants.

Announcement has been made that **T. P. Irving** has become associated with the **Greenville Steel Car Company** as research development engineer. Mr. Irving began his railroad career in July, 1901, as a mechanical draftsman, locomotive and car, for the Erie, and from August, 1902, to January, 1928, held such positions as draftsman, assistant chief draftsman, chief draftsman, and assistant mechanical engineer. When the Advisory Mechanical Committee was organized in November, 1929, Mr. Irving was appointed engineer of car construction for the Erie, the Chesapeake & Ohio, the Pere Marquette and the New York, Chicago & St. Louis, holding that position until his retirement in 1948. During World War II, he served approximately one year as assistant director, Transportation Equipment division, War Production Board, at Washington, D. C., and in 1941 was appointed chairman of the Car Construction Committee of the Mechanical Division of the Association of American Railroads.

R. B. Fisher, vice-president in charge of the Railroad and Industrial department of the **Buda Company,** Harvey, Ill., has retired. Mr. Fisher entered the service of this company in 1910 as assistant engineer, and served successively thereafter as chief engineer, assistant to the president, general sales manager and vice-president and director. Mr. Fisher will continue to serve as a member of the board of directors.

Paul L. McCulloch, Jr., has been transferred to the **American Brake Shoe Company's** Pittsburgh, Pa., district sales office, where he will serve as sales engineer for the firm's American manganese steel and electro-alloys divisions. He is replacing **M. A. Zeller,** who has resigned. Mr. McCulloch, formerly located in Rochester, N. Y., joined Brake Shoe in 1945 as an apprentice.

Harold C. Youngs has been appointed manager of the railroad materials department of the **Georgia-Pacific Plywood & Lumber Co.** to succeed **L. U. West,** resigned. Mr. Youngs has been executive assistant manager of the department for the past two months and his promotion to manager is effective January 1.

James P. Maher, sales representative of the **Griffin Company,** has been appointed assistant vice-president, effective January 1, 1950, with headquarters at Chicago. Mr. Maher joined Griffin Wheel at the New York office in January, 1925. After serving in various capacities there and in Cleveland, Ohio, he was transferred to the general sales office at Chicago in 1934.

Percy H. Waller has been appointed manager, Railway division, **Manganese Steel Forge Company,** Philadelphia, Pa., with headquarters in the Peoples Gas building, 122 S. Michigan avenue, Chi-

Percy H. Waller

cago. Mr. Waller was formerly associated with the Pullman Company for 37 years. He served in various branches of the business, more recently as assistant chief engineer and assistant to the chief maintenance officer.

Fred Kaiser, midwest regional manager of the **Minneapolis-Honeywell Regulator Company** at Chicago since 1942, has been promoted to field sales manager, a newly-created position. Succeeding Mr. Kaiser in the midwest area is **Clarence L. Peterson,** formerly Pacific regional manager at San Francisco, Cal. Mr. Peterson has been replaced by **Gavin S. Younkin,** manager of the Los Angeles (Cal.) branch since 1943, who will continue headquarters at Los Angeles. **Reginald C. Cushing,** regional air conditioning sales manager, has been advanced to branch manager of the company's San Francisco office.

OBITUARY

B. Franklin Bales, sales manager for Shakeproof, Inc., a division of the Illinois Tool Works died on December 21 in the Evanston (Ill.) hospital.

EQUIPMENT AND SUPPLIES

LOCOMOTIVES

M. P. Will Buy 63 Diesels

The federal district court at St. Louis, Mo., has authorized the Missouri Pacific Lines to purchase 34 freight, 8 passenger and 21 switching Diesel locomotives at a cost of $11,299,900, which will be the largest single order of such equipment ever to be placed by the road. P. J. Neff, M. P. chief executive officer, said the orders "will be placed immediately," and will include 50 locomotives for the M. P., 8 for the Gulf Coast Lines and 5 for the International-Great Northern.

The **Reading** has ordered 30 1,500-hp. Diesel-electric road units from the Electro-Motive Division of General Motors Corporation at an approximate total cost of $5,000,000.

SIGNALING

The **New York Central** has ordered equipment from the General Railway Signal Company for installation of a direct-wire all-relay electric interlocking at High Bridge, N. Y. The control machine, to be located in Tower SSSK, Sedgwick Avenue, about a quarter mile from the most distant controlled point, will have a 40-in. panel equipped with 14 track lights and 19 levers for control of 6 switch machines and 21 signals. Model 5A electric switch machines, type B plug-in relays, and welded steel bungalows are included in this order.

CONSTRUCTION

Union Pacific.—This road will request bids early in 1950 for work in connection with its new laundry building to be erected at Ogden, Utah, replacing the present laundry located in the commissary building in Ogden. Construction of the one-story yellow brick structure is expected to require a year. It will be 100 ft. by 180 ft., with a pavement area of 100 ft. by 60 ft. at each end, and is to be 21 ft. high with a 17-ft. ceiling. Covered platforms, 100 ft. by 12 ft., will run the width of the building at the south

and north ends for receiving and issuing laundry. The work room will be equipped with the most modern machinery, including 8 unloading washers, 3 extractors, 4 120-inch 8-roll flatwork ironers, 3 dryers, 12 tumblers, 42 press units, 6 folders, 1 stacker, 3 tying machines, 2 continuous belt conveyors and a monorail system for moving baskets of laundry. The new laundry will be capable of turning out a maximum of 110,000 pieces during an eight-hour working day.

FINANCIAL

Boston & Maine.—*New Director.*—James Lester Madden, president of the Hollingsworth & Whitney Paper Co. and the Kennebec Water Power Company, has been elected to this road's board of directors.

Chicago, Rock Island & Pacific.—*Refinancing Plan Approved by Stockholders.* — Stockholders of this road, at a special meeting in Chicago on December 22, approved the proposed refinancing of the company's entire funded debt by issuance of $55,000,000 of new first mortgage bonds. The plan—already approved by the road's directors—received favorable votes from holders of 86.3 per cent of the preferred stock and of 81.3 per cent of the common stock. The $25,760,000 first mortgage bonds now outstanding have been called for redemption as of January 1, 1950, redemption funds having been secured by means of a short-term bank loan. A portion of the proceeds from sale of the $55,000,000 of new mortgage bonds in January, 1950, will be used to pay off the bank loan. The remainder, along with funds from the company's treasury, will provide redemption funds for paying off, on April 1, 1950, presently outstanding general mortgage bonds amounting to some $33,400,000. The road asserts that final execution of the plan will make the Rock Island one of the few railroad properties with a single mortgage indebtedness, exclusive of equipment obligations, and places the road in a continued highly favorable financial position.

Lake Superior & Ishpeming.—*Extra Dividend.*—This company, on December 23, paid an extra dividend of 25 cents a share on its common stock.

Investment House Publications

[The surveys listed herein are, for the most part, prepared by financial houses for the information of their customers. Knowing that many such surveys contain valuable information, *Railway Age* lists them as a service to its readers, but assumes no responsibility for facts or opinions which they may contain bearing upon the attractiveness of specific securities.]

Baker, Weeks & Harden, One Wall st., New York 5.

Kansas City Southern. December 5.

Western Maryland Railroad Co. Bond Exchange Offer. November 28.

Dreyfus & Co., 50 Broadway, New York 4.

Is There More Than Meets the Eye in Chicago Great Western Railway Company Common and Preferred? December 2.

Harriman Ripley & Co., 63 Wall st., New York 5.

A study of the Illinois Central Railroad.

H. Hentz & Co., 60 Beaver st., New York 4.

An Analysis of Chesapeake & Ohio Railway. December 19.

An Analysis of Seaboard Air Line Railroad, November 21.

Merrill Lynch, Pierce, Fenner & Beane, 70 Pine st., New York 5.

Bangor & Aroostook Railroad Company. Stock Comment No. 460, December 12.

New York, Chicago & St. Louis Railroad Company. Stock Comment No. 435. November 28.

Security and Industry Survey Changes: Railroads Stock Comment No. 468. December 15.

Bond Comment: Selected Medium Grade Railroad Bonds for Income. No. 34, December 2.

Smith, Barney & Co., 14 Wall st., New York 5.

Good Quality Railroad Bonds for Higher Than Average Income. Railroad Bulletin No. 37. November 29.

The Railroad Securities Outlook. Railroad Bulletin No. 38. December 20.

Vilas & Hickey, 49 Wall st., New York 5.

Railroad Income Mortgage Bonds. December 5.

New Securities

Application has been filed with the Interstate Commerce Commission by:

Southern Pacific.—To assume liability for $13,530,000 of equipment trust certificates, series DD, to finance in part the following equipment:

	Description and Builder	Estimated Unit Cost
8	6,000-hp Diesel-electric freight locomotives, each consisting of 2 1,500-hp. "lead" units and 2 1,500-hp. "boster" units (Electro-Motive Division, General Motors Corporation)	$631,187
11	1,000-hp. Diesel-electric switching locomotives (American Locomotive Company)	99,753
598	70-ton steel flat cars (American Car & Foundry Co.)	5,291
2	Sleeping cars (10 roomettes; 6 double bedrooms) (Pullman-Standard Car Manufacturing Company)	145,292
24	Sleeping cars (10 roomettes; 6 double bedrooms) (Budd Company)	143,149
5	Sleeping cars (10 roomettes; 6 double bedrooms) (Budd)	145,535
32	Passenger-train cars, consisting of:	
	5 coffee shop-lounge cars	153,640
	6 lounge cars	141,105
	3 dining cars	147,480
	5 baggage-dormitory cars	122,550
	5 chair cars (with news agent's and conductor's space)	129,819
	8 chair cars	121,868
	(All from Budd)	

The application placed the estimated total cost of this equipment at $18,059,106.

The certificates would be dated January 1, 1950, would mature in 15 equal annual installments of $902,000 each, beginning January 1, 1951, and would be sold on competitive bids, with interest to be set by such bids.

Dividends Declared

Baltimore & Ohio.—4% non-cumulative preferred, $1, payable January 25, 1950, to holders of record January 3.

Carolina, Clinchfield & Ohio. — quarterly, $1.25, payable January 20, 1950, to holders of record January 10.

Cincinnati Inter-Terminal. — 4% preferred, semiannual, $2 each, payable, respectively, February 1, 1950, and August 1, 1950, to holders of record January 20 and July 20.

Dayton & Michigan.—8% preferred, quarterly, $1, payable January 5, 1950, to holders of record December 15.

Grand Rapids & Indiana.—$2, paid December 20 to holders of record December 10.

Lake Superior & Ishpeming.—25¢, payable January 20, 1950, to holders of record January 13; extra 25¢, paid December 23 to holders of record December 16.

New York, Chicago & St. Louis.—6% preferred A (accumulated), $5, payable February 1, 1950, to holders of record January 16.

Norfolk & Western. — 4% adjustment preferred, quarterly, 25¢, payable February 10, 1950, to holders of record January 18.

Northern Central.—semiannual, $2, payable January 14, 1950, to holders of record December 31.

Pittsburgh, Cincinnati, Chicago & St. Louis.—semiannual, $2.50, payable January 20, 1950, to holders of record January 10.

Providence & Worcester.—quarterly, $2.50, paid December 31 to holders of record December 19.

Average Prices Stocks & Bonds

	Dec. 27	Prev. week	Last year
Average price of 20 representative railway stocks..	39.57	39.69	43.39
Average price of 20 representative railway bonds..	89.01	89.00	88.35

RAILWAY OFFICERS

EXECUTIVE

William J. Wilkins, whose election as vice-president of the Southern System at Cincinnati, Ohio, was reported in the *Railway Age* of December 10, was

William J. Wilkins

born at Roanoke, Va., on October 22, 1898. He attended New York University and joined the Southern in 1926 as a student clerk in the traffic department at Washington, D. C. Mr. Wilkins was

promoted to freight traffic representative at New York in 1927, and subsequently served there as commercial agent and as district freight and passenger agent. He was transferred to St. Louis, Mo., in 1936, and was appointed assistant freight traffic manager at Memphis, Tenn., in 1939. In the following year he returned to New York as Eastern traffic manager, and was promoted to Western Traffic manager at St. Louis in 1943. Mr. Wilkins was further advanced in January, 1944, to freight traffic manager at Cincinnati, becoming vice-president of the Cincinnati, New Orleans & Texas Pacific (part of the Southern System) at that point and executive general agent of the Southern there, in January, 1949. He continues also as vice-president of the former road.

Kenneth M. Baxter has been appointed assistant to the president of the Chicago & Eastern Illinois, succeeding **Walter M. Templeton,** elected assistant treasurer.

Arthur G. Moody, office manager in the executive department of the Illinois Central at Chicago, has been appointed executive assistant in that department, effective January 1, 1950. A native of New Concord, Ky., Mr. Moody entered I. C. service in June, 1912, as a stenographer in the office of the division superintendent at Carbondale, Ill. He become secretary to the superintendent in 1913, and secretary to the general superintendent at Chicago in 1916. In November of that year he was advanced to secretary to the general manager. During World War I Mr. Moody enlisted in an I. C. railway operating unit, Company A, 13th Engineers. He served with this unit at Verdun, France, and after the war returned to the I. C. Subsequently he held positions as secretary to the vice-president and correspondence clerk, assistant chief clerk in the office of the vice-president and general manager, chief clerk in the wage bureau, and supervisor of personnel. In June, 1942, he was granted a furlough to work with the Continental Assurance Company, with which firm he handled I. C. group insurance matters. Mr. Moody returned to the I. C. in August, 1945, as office manager in the executive department.

Arthur G. Moody

Walter Thomas Marable, whose appointment as assistant to president of the Atlantic Coast Line at Wilmington, N. C., was reported in the *Railway Age* of December 24, was born on August 17, 1901, at Newberry, Fla. Mr. Marable entered railroad service on July 29, 1918, with the A.C.L. at Newberry and five months later became ballast inspector at Crystal River, Fla. After serving in various clerical and accounting positions at Newberry, Jacksonville, Fla.; Wilmington; and Lakeland, Fla., Mr. Marable was appointed soliciting freight agent at Jacksonville on November 10, 1928, becoming traveling freight agent there on November 16, 1929; clerk, traffic department, at Wilmington on August 1, 1930, and commercial agent at Perry, Fla., on October 1, 1931. After serving as chief clerk in the traffic department at Wilmington, he was appointed chief clerk to executive vice-president on October 16, 1940; chief clerk to president on September 14, 1942; and staff assistant in the office of the president on November 1, 1944. He was elected assistant secretary of the Savannah Union Station and the Winston-Salem Southbound on March 21, 1946, and will continue to serve in those capacities.

Walter Thomas Marable

E. Paul Gangwere, assistant general manager of the Reading, has been elected assistant vice-president, operating and maintenance, effective January 1, 1950.

Cedric S. Hill, superintendent of freight stations and motor service of the New York Central System at New York, has been appointed assistant to vice-president, Lines Buffalo and east, with the same headquarters, effective January 1, 1950, suceeding **Edward L. Golden,** who will retire after more than 42 years of service. Mr. Hill was born at Chicago in 1898 and was educated at Philips Exeter Academy and at Sheffield Scientific School, Yale University, which he left to enlist in the United States Army during World War I. He entered the service of the N. Y. C. in 1918 as a rodman in the engineering department and was appointed assistant engineer in 1924; traveling car agent in the freight transportation department in 1927; supervisor freight transportation in 1936, and assistant to manager in 1940. Mr. Hill became superintendent of freight stations and motor service in 1945.

Cedric S. Hill

Mr. Golden was born at Princeton, N. J., in 1881, and began work on the N.Y.C. as a telegrapher on the Electric division in 1907, becoming chief clerk to the assistant superintendent at Grand Central Terminal later that year. He was appointed chief dispatcher at Grand Central in 1913; trainmaster in 1823; assistant superintendent in 1924; and superintendent of the Electric, Harlem and Putnam divisions in 1941. Mr. Golden became assistant to vice-president in 1948.

Frank W. Rourke, general manager of the Boston & Maine and the Maine Central at Boston, Mass., has been appointed vice-president—operations of both roads, succeeding **J. W. Smith,** who has been appointed vice-president assigned to special duties.

Gerald E. Duffy, assistant vice-president, traffic, of the Atchison, Topeka & Santa Fe, has been appointed traffic vice-president at Chicago, succeeding the late **James J. Grogan,** whose death was reported in the *Railway Age* of December 24.

FINANCIAL, LEGAL & ACCOUNTING

D. L. Smith, assistant real estate agent of the Atlantic Coast Line at Wilmington, N. C., has been appointed real estate agent, with the same headquarters, succeeding **A. T. Summey,** who will retire on January 1, 1950, at his own request, after more than 42 years of service with that road. Mr. Smith was born

at Florence, S. C., and entered the service of the A.C.L. on December 9, 1929, at Wilmington, serving successively as draftsman, assistant engineer, insurance engineer, and assistant real estate agent.

Mr. Summey was born at Covington, Ky., and was graduated from the University of Tennessee in 1901, entering the service of the Coast Line on October 1, 1907, as assistant to real estate agent. He was in United States military service from August 26, 1917, to May 7, 1919, during which time he was on overseas duty. Returning to the A.C.L. at Wilmington as assistant engineer on May 7, 1919, he was appointed senior land appraiser on January 1, 1929, and real estate agent on August 1, 1935.

John C. Shields, whose retirement as general counsel of the Chesapeake & Ohio at Detroit, Mich., was reported in the *Railway Age* of December 10, was born on November 12, 1884, at Hancock, Mich., where he attended high school. He received his J. D. degree from Detroit College of Law in 1908. Mr. Shields engaged in general law practice from 1908 to 1910, at which time he entered the service of the Pere Marquette (now part of the C.&O.) as assistant attorney. He was promoted to general attorney in 1912, and in 1918 became a general attorney for the United States Railroad Administration. He resumed his position as general attorney for the P. M. in 1920, was advanced to general solicitor in 1933, and promoted to general counsel in 1942.

John C. Shields

M. K. Gilbert, assistant secretary and transfer agent of the Louisville & Nashville, at Louisville, Ky., will retire, at his own request, on January 1, 1950. He will be succeeded by **W. Kenneth Kesten,** who has served in the secretary's office as a clerk since 1933.

Maurice N. Ray, chief claim agent of the New York Central at Detroit, Mich., has been transferred in that position to Chicago, succeeding **William J. Holden,** who is retiring after nearly 49 years of service. **Paul H. Winter,** assistant chief claim agent at Chicago, has been promoted to succeed Mr. Ray, and has been succeeded in turn by **Charles P. Rath.**

Walter M. Templeton, assistant to the president of the Chicago & Eastern Illinois, has been elected assistant treasurer at Chicago to succeed **Nels E. Helme,** whose retirement was reported in the *Railway Age* of December 3.

OPERATING

John P. Falk, division superintendent of the Chicago, Burlington & Quincy, with headquarters at Chicago, has retired after 57 years of service with that road. He is succeeded by **John C. Starbuck,** assistant division superintendent at Chicago. **Russell W. Allen,** coach yard trainmaster at Chicago, succeeds Mr. Starbuck. Born at Burlington, Iowa, on August 2, 1879, Mr. Falk attended Christian Brothers College, St. Joseph, Mo. He started his career with the Burlington as a train caller at St. Joseph, and was advanced steadily through the ranks, serving as clerk, switchman, brakeman, conductor, yardmaster, assist superintendent, and, finally, superintendent at Chicago.

Francis J. Mulligan, whose promotion to division superintendent of the Erie, with headquarters at Huntington, Ind., was reported in the *Railway Age* of December 10, was born at Wooster, Ohio, on January 1, 1903. Mr. Mulligan attended LaSalle Extension University, and started his career with the Erie in February, 1923. He was appointed assistant yardmaster at Ferrona, Pa., in 1928, and advanced to yardmaster at that point in 1931. From 1932 to 1933, he served first as assistant chief clerk at Youngstown, Ohio, and later as chief clerk to the general yardmaster at that point. Subsequently, he held the position of yardmaster successively at Ferrona, and Niles, Ohio, becoming agent and yardmaster at the latter point in 1935. The next year he was promoted to trainmaster at Huntington, and in 1939 was transferred to Dunmore, Pa., and in July, 1941, to Marion, Ohio. Mr. Mulligan was appointed assistant superintendent on the Marion division, at Chicago, in November, 1945, in which capacity he was serving prior to his recent promotion.

Francis J. Mulligan

Roswell J. Osborn has been appointed superintendent of power at Grand Central Terminal, New York, and on the Electric division of the New York Central, succeeding the late **H. E. Atkins,** whose death on September 7 was reported in *Railway Age* of September 17. **Roland Gooch** has been appointed assistant superintendent of power to succeed Mr. Osborn, who was born in 1902 at Kalamazoo, Mich. He was graduated from the University of Vermont with a degree in mechanical engineering, and entered the service of the N.Y.C. in 1936 as an air-conditioning inspector at Grand Central. Mr. Osborn was appointed refrigeration foreman in 1938, assistant supervisor of service plants in 1941, and supervisor in 1944. He has been assistant superintendent of power since March 1 of this year.

Mr. Gooch was born at Eatonton, Ga., in 1898 and received degrees in mechanical and electrical engineering at the Georgia Institute of Technology, entering the service of the N.Y.C. in 1921 as clerk-statistician in the power department at Grand Central. He was appointed special staff engineer in 1922 and in 1931 was named assistant engineer in the power department, which position he held before receiving his present promotion.

L. W. Shuman, trainmaster of the Atlantic Coast Line at Savannah, Ga., has been appointed superintendent of terminals at Jacksonville, Fla., effective January 1, 1950. **O. S. Toler,** terminal trainmaster at Birmingham, Ala., has been appointed superintendent terminals, with the same headquarters. **R. L. Lightfoot,** chief dispatcher at Tampa, Fla., has been appointed trainmaster of the Tampa district at Lakeland, Fla., succeeding **O. P. Dowling, Jr.,** who has been transferred to the Waycross district at Savannah, Ga.

Alfred A. Burkhardt, supervisor of stations and transfers of the New York Central, Lines Buffalo and east, with headquarters at Syracuse, N. Y., has been appointed superintendent of freight stations and motor service, at New York, succeeding **Cedric S. Hill,** who has been appointed assistant to vice-president, Lines Buffalo and east. **Ralph R. Tobin,** special agent in the office of the supervisor of freight stations and transfers at Syracuse, has been appointed assistant supervisor stations and transfers at Syracuse, succeeding **Charles J. Hart,** who succeeds Mr. Burkhardt as supervisor of stations and transfers, Buffalo and east.

C. W. Rayfield, assistant to the manager of the sleeping, dining, parlor car

and news service department of the Canadian Pacific at Montreal, Que., has been promoted to assistant manager of that department. **T. P. James** has been appointed general superintendent, Eastern region, same department, with headquarters at Toronto, Ont., succeeding the late **A. B. Smith**, whose death

C. W. Rayfield

was reported in the *Railway Age* of December 3. Mr. Rayfield was born at Orangeville, Ont., and worked in the engineering and operating departments of the C.P.R. at Toronto, Montreal, and Calgary, Alta., before he joined the sleeping, dining and parlor car department in 1909. After service in the latter department as agent at Toronto and Banff, Alta., from 1911 to 1915, he went to Montreal as chief clerk, becoming assistant to the manager in 1925.

Mr. James was born at Kingston, Ont., and completed his education at Edmonton, Alta., joining the C.P.R. at

T. P. James

Calgary in 1924. A year later he went to Montreal and from 1937 to 1943 was manager of the Windsor Station restaurant. He was manager of Eastern Abattoirs, a subsidiary of the C.P.R. at Montreal, at the time of his recent appointment.

TRAFFIC

L. J. Byrne and **C. J. McDonald**, assistant general freight agents of the Chesapeake & Ohio, at Detroit, Mich., have been promoted to general freight agents at that point. **James Rizner** has been appointed assistant general freight agent at Detroit.

Stanley J. Ives, assistant to passenger traffic manager of the Chicago & Eastern Illinois at Chicago, has been promoted to assistant general passenger agent, succeeding **T. H. Kelch**, who is retiring after 44 years of service. Mr. Ives is succeeded by **W. H. Elliot**.

J. P. McGuire, commercial agent of the Norfolk & Western, has been appointed general agent, with headquarters as before at Cleveland, Ohio.

W. Fred Bonney, Jr., has been appointed to the newly-created position of traffic and industrial agent of the Atlantic & Danville, with headquarters at Norfolk, Va.

E. J. Zschirpe, assistant general freight traffic manager of the New York Central System at New York, has retired after more than 50 years of service with that system.

G. E. Johnston, assistant division freight agent of the Central of Georgia at Columbus, Ga., has been appointed division freight agent there, succeeding **T. P. Wade**, who has retired after 54 years of service.

J. R. Mockbee, assistant general freight agent of the St. Louis Southwestern at Dallas, Tex., will retire on January 1, 1950, after more than 50 years of railroading. Succeeding Mr. Mockbee is **S. D. Swann**, general agent at Texarkana, Ark., who will be replaced in turn by **R. H. Hubbard**, general agent at Pine Bluff, Ark. **C. W. Baker**, general agent at Blytheville, Ark., will be transferred to succeed Mr. Hubbard, and will be succeeded in turn by **Gilbert L. Smythe** of the Cincinnati (Ohio) agency. **F. E. Rownd**, general agent at Kansas City, will retire on January 1, following 53 years of service, and will be succeeded by **H. E. Johnson**, general agent at Denver, Colo. **William J. Donahue**, commercial agent at Houston, Tex., will replace Mr. Johnson.

George F. Sherman, Jr., division freight and passenger agent of the Atchison, Topeka & Santa Fe at St. Joseph, Mo., has been promoted to passenger traffic manager at Topeka, Kan., succeeding **Hugh N. Davis**, appointed assistant general passenger traffic manager at Chicago, as reported in the *Railway Age* of December 3. **J. A. Dana**, assistant general freight agent of the Gulf, Colorado & Santa Fe (Santa Fe subsidiary) at Houston, Tex., has been promoted to general freight agent at Galveston, Tex., succeeding the late **J. A. Fitzgerald**. Mr. Dana has been succeeded by **Kelley M. Fogg**, division freight and passenger agent at Beaumont, Tex., who has been replaced in turn by **O. C. Honing**, division freight agent at Temple, Tex. Mr. Honing's successor is **Raymond N. Jarl**, assistant division freight agent at Dallas, Tex., who has been succeeded by **Jeff A. Smyth**, traveling freight agent, with headquarters at Houston.

W. B. Markham, district freight and passenger agent of the Union Pacific at Memphis, Tenn., has retired after more than 36 years of service. He is succeeded by **G. E. Rothrock**, chief clerk in the U.P.'s New York traffic office, whose new title will be general agent.

MECHANICAL

F. C. Wenk, superintendent air brakes, system, of the Atlantic Coast Line, has been appointed general mechanical instructor at Wilmington, N. C.

Arthur Clark Browning, whose retirement as secretary, Mechanical Division, Association of American Railroads, with headquarters at Chicago, was reported in the *Railway Age* of December 24, was born at Belpre, Ohio, on July 15, 1884. Mr. Browning received his higher education at Mountain State Business College, Parkersburg, W. Va. He en-

Arthur Clark Browning

tered railroad service in January, 1906, as a truckman in the Chicago, Rock Island & Pacific's freight house at Chicago, and subsequently worked in various capacities in the local freight office at Chicago, including those of yard clerk, stenographer, waybill clerk, assistant accountant and chief tonnage clerk. In 1917 he was appointed inspector of weights and fuel clerk in the Rock Island's general office. Mr. Browning has been with the Mechanical Division, A.A.R., since February, 1919, serving as committee reporter, mechanical inspector and assistant to secretary until his appointment as secretary of the division in January, 1942.

Frank D. Sineath, assistant to chief of motive power and equipment of the

Atlantic Coast Line at Wilmington, N. C., has been appointed assistant chief of motive power, effective January 1, 1950, with the same headquarters. Mr. Sineath was born on November 9, 1909, at Columbia, S. C., and entered

Frank D. Sineath

the service of the Coast Line on May 12, 1941, as electrician at Jacksonville, Fla., being promoted to lead electrician there on April 9, 1942. Seven months later he was appointed Diesel gang foreman and on November 1, 1944, Diesel department foreman. He became general foreman on July 1, 1946; acting master mechanic at Florence, S. C., on March 1, 1948; and master mechanic at Florence six months later, transferring to Wilmington on December 16, 1948. Mr. Sineath was appointed assistant to chief of motive power and equipment in February, 1949.

Fred Peronto, assistant secretary, Mechanical Division, Association of American Railroads, has been advanced to secretary of the division, succeeding **A. C. Browning,** whose retirement was reported in the *Railway Age* of December 24. Mr. Peronto is succeeded by **A. I. Ciliske.**

ENGINEERING & SIGNALING

Dr. William M. Barr, research and standards consultant of the Union Pacific, and in charge of the road's 60-man research and laboratory force, will retire on December 31.

R. J. Middleton, who will, at his own request, relinquish the position of chief engineer of the Chicago, Milwaukee, St. Paul & Pacific at Chicago, and assume the duties of consulting engineer, effective January 1, 1950, as reported in the *Railway Age* of December 24, was born near Greenwood, Ark., on September 29, 1881. Mr. Middleton received his bachelor's degree in civil engineering from the University of Arkansas in 1903, and his career with the Milwaukee began as a draftsman in the bridge and building department in February, 1906. The following October he was appointed assistant engineer on bridge and building work at Ottumwa, Iowa, and in 1908 he was appointed to the same position on bridge and building work on track elevation at Evanston, Ill. From 1911 to 1912 he served as assistant engineer in charge of construction of yard and engine terminal facilities at Savanna, Ill., and Bensenville, becoming engineer of track elevation at Chicago in 1913. Three years later Mr. Middleton was

R. J. Middleton

made valuation engineer and, in 1918, was advanced to assistant chief engineer, Lines West of Missouri River, with headquarters at Seattle, Wash. He was appointed assistant chief engineer in 1933, and in November, 1945, became chief engineer—system.

OBITUARY

J. A. Fitzgerald, general freight agent of the Gulf, Colorado & Santa Fe at Galveston, Tex., died recently.

John Pfeiffer, who retired in 1947 as superintendent motive power of the Fort Worth & Denver City, the Colorado & Southern and the Wichita Valley, died on December 21 at Amarillo, Tex., of a heart attack, at the age of 74.

William Charles Hurst, who retired in 1945 as president of the Chicago & Illinois Midland, died at his home in Fillmore, Cal., on November 30.

George A. Goerner, late general storekeeper of the Chicago, Burlington & Quincy at Chicago, whose death was reported in the *Railway Age* of December 24, was born on January 19, 1890. He attended the Burlington (Iowa) public schools and Blackstone Institute of Law, entering railroad service with the Burlington in September, 1904, as a store department laborer at West Burlington. He subsequently served in various positions in the stores department at that point, Ottumwa, Iowa, and Galesburg, Ill. Mr. Goerner first came to Chicago as district storekeeper and later served as special inventory investigator and inspector of stores at that point until his transfer to Denver, Colo., as district storekeeper. After serving in the same capacity at Aurora, Ill., he was made traveling storekeeper, with headquarters at Chicago. He was next appointed purchasing agent for the Colorado & Southern and Fort Worth & Denver City (part of the Burlington Lines) at Denver, becoming general storekeeper of the C. B. & Q. at Chicago in 1936.

James J. Grogan, late vice-president in charge of traffic of the Atchison, Topeka & Santa Fe, with headquarters at Chicago, whose death was reported in the *Railway Age* of December 24, was a native of Chicago. Mr. Grogan attended evening classes at Loyola University Law School, Chicago, and upon graduation was admitted to the bar. Starting his business career with Swift & Co., he also served for a short time with the Chicago & Alton (now part of the Gulf, Mobile & Ohio) prior to entering the service of the Santa Fe in 1903, as a stenographer in the office of the division freight agent at Chicago. He later held positions successively as bill-of-lading clerk, rate clerk, city freight agent, and chief clerk, all in the same office. During World War I, Mr. Grogan was assigned to the traffic department of the United States Food Administration, being appointed assistant manager of inland traffic for the administration in 1918. From 1919 to 1920, he served with the Western District Freight Traffic Committee at Chi-

James J. Grogan

cago, and subsequently became foreign freight agent for the Santa Fe at that point. In 1933 he was appointed general freight agent at Chicago, and in 1934 he became assistant freight traffic manager there. Mr. Grogan was promoted to freight traffic manager at Chicago in 1938, becoming general freight traffic manager in April, 1941. Following service as assistant traffic vice-president from July to November, 1942, he was promoted to vice-president in charge of traffic.

OPERATING REVENUES AND OPERATING EXPENSES OF CLASS I STEAM RAILWAYS

[Compiled from 129 monthly reports of revenues and expenses representing 133 Class I steam railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF OCTOBER 1949 AND 1948

Item	United States		Eastern District		Southern District		Western District	
	1949	1948	1949	1948	1949	1948	1949	1948
Miles of road operated at close of month	219,488	226,680	53,269	53,487	46,017	46,068	120,202	127,125
Revenues:								
Freight	$534,884,578	$738,587,674	$178,413,555	$278,421,169	$97,275,384	$143,626,874	$259,195,639	$316,539,631
Passenger	60,993,285	75,316,015	33,501,984	39,644,369	8,436,796	10,875,118	19,054,505	24,796,528
Mail	18,927,342	18,183,668	6,868,113	6,624,352	3,556,187	3,139,080	8,504,042	8,420,236
Express	7,054,346	9,944,650	2,389,171	3,249,038	1,144,713	1,527,489	3,520,462	5,168,123
All other operating revenues	27,064,577	36,088,857	11,766,685	16,066,652	4,259,290	5,755,107	11,038,602	14,267,098
Railway operating revenues	648,924,128	878,120,864	232,938,508	344,005,580	114,672,370	164,923,668	301,313,250	369,191,616
Expenses:								
Maintenance of way and structures	94,136,627	120,858,533	30,553,951	46,295,278	21,640,283	24,702,977	41,942,393	49,860,278
Depreciation	10,444,425	10,428,494	4,473,243	4,412,149	1,867,118	1,824,544	4,104,064	4,191,801
Retirements	1,570,244	1,607,369	205,888	480,976	319,303	99,858	1,045,053	1,026,535
Deferred maintenance	*181,432	*147,979	.....	*6,842	*90,349	*58,500	*91,083	*82,637
Amortization of defense projects	149,441	163,719	15,645	14,781	44,823	42,666	88,973	106,272
Equalization	3,110,978	*1,399,111	1,882,762	*834,098	*63,963	*817,928	1,292,179	252,915
All other	79,042,971	110,206,041	23,976,413	42,228,312	19,563,351	23,612,337	35,503,207	44,365,392
Maintenance of equipment	116,594,905	148,974,465	45,500,176	61,994,438	22,370,124	30,099,211	48,724,605	56,880,816
Depreciation	23,604,838	21,801,997	9,276,140	8,619,543	5,375,060	4,776,803	8,953,638	8,405,651
Retirements	16,377	*50,505	*6,589	*6,462	*9,709	*29,148	32,675	*14,895
Deferred maintenance and major repairs	*63,096	*182,482	*26,760	44,000	*6,758	*200,272	*29,578	*26,210
Amortization of defense projects	1,210,219	1,227,068	450,593	452,333	238,931	238,910	520,695	535,825
Equalization	249,063	51,277	33,249	1,972	152,397	11,361	63,417	37,944
All other	91,577,504	126,127,110	35,773,543	52,883,052	16,620,203	25,301,557	39,183,758	47,942,501
Traffic	15,488,515	16,624,214	5,292,443	5,768,809	3,288,185	3,490,510	6,907,887	7,364,895
Transportation—Rail line	264,212,245	331,507,888	109,731,883	138,804,591	46,393,377	59,772,112	108,086,985	132,931,185
Miscellaneous operations	9,211,565	10,929,554	3,437,472	4,222,205	1,259,139	1,576,079	4,514,954	5,131,270
General	21,275,743	23,014,795	8,311,750	8,866,819	4,741,068	5,137,714	8,222,925	9,010,262
Railway operating expenses	520,919,600	651,909,449	202,827,675	265,952,140	99,692,176	124,778,603	218,399,749	261,178,706
Net revenue from railway operations	128,004,528	226,211,415	30,110,833	78,053,440	14,980,194	40,145,065	82,913,501	108,012,910
Railway tax accruals	65,375,827	100,778,745	17,656,961	31,756,776	10,140,179	20,640,947	37,578,687	48,381,022
Pay-roll taxes	19,420,277	22,395,796	7,704,148	9,301,479	3,655,864	4,243,505	8,060,265	8,850,812
Federal income taxes†	21,393,133	51,354,566	1,956,884	12,141,912	646,978	10,787,827	18,789,271	28,424,827
All other taxes	24,562,417	27,028,383	7,995,929	10,313,385	5,837,337	5,609,615	10,729,151	11,105,383
Railway operating income	62,628,701	125,432,670	12,453,872	46,296,664	4,840,015	19,504,118	45,334,814	59,631,888
Equipment rents—Dr. balance	12,333,093	11,403,268	4,239,260	5,232,722	176,382	*1,837,177	7,917,451	8,007,723
Joint facility rent—Dr. balance	3,510,052	3,152,545	1,737,480	1,493,403	576,642	460,908	1,195,930	1,198,234
Net railway operating income	46,785,556	110,876,857	6,477,132	39,570,539	4,086,991	20,880,387	36,221,433	50,425,931
Ratio of expenses to revenues (per cent)	80.3	74.2	87.1	77.3	86.9	75.7	72.5	70.7

FOR THE TEN MONTHS ENDED WITH OCTOBER 1949 AND 1948

Item	United States		Eastern District		Southern District		Western District	
	1949	1948	1949	1948	1949	1948	1949	1948
Miles of road operated at close of month	225,197	227,043	53,435	53,614	46,030	46,137	125,732	127,292
Revenues:								
Freight	$5,879,491,238	$6,636,967,638	$2,182,941,848	$2,528,455,858	$1,172,028,175	$1,357,099,276	$2,524,521,215	$2,751,412,504
Passenger	722,095,818	799,411,707	376,396,664	407,529,233	112,577,512	124,713,437	233,121,642	267,169,037
Mail	180,150,056	157,881,362	66,318,758	56,966,310	32,555,615	28,192,743	81,275,683	72,722,309
Express	63,453,949	99,886,322	16,877,321	33,332,145	11,087,170	16,892,609	35,489,458	49,661,568
All other operating revenues	311,866,826	345,549,468	138,454,681	152,665,712	50,764,005	57,135,152	122,648,140	135,748,604
Railway operating revenues	7,157,057,887	8,039,696,497	2,780,989,272	3,178,949,258	1,379,012,477	1,584,033,217	2,997,056,138	3,276,714,022
Expenses:								
Maintenance of way and structures	1,093,667,975	1,126,083,952	385,797,213	420,323,172	223,897,722	234,461,189	483,973,040	471,299,591
Depreciation	105,479,778	103,617,681	44,508,389	43,941,214	18,429,791	18,057,412	42,541,598	41,619,055
Retirements	10,893,090	11,199,329	2,483,712	2,641,441	1,590,306	1,573,488	6,819,072	6,984,400
Deferred maintenance	*3,063,536	*3,070,613	*328,422	*105,938	*1,573,312	*949,416	*1,161,802	*2,015,209
Amortization of defense projects	1,499,946	1,736,067	154,568	135,427	466,065	433,470	879,313	1,167,170
Equalization	*5,250,444	*1,081,161	*3,223,539	*2,385,955	*281,296	681,069	*1,745,609	623,725
All other	984,109,141	1,013,682,649	342,202,505	376,097,033	205,266,168	214,665,166	436,640,468	422,920,450
Maintenance of equipment	1,341,485,509	1,404,220,127	548,979,192	595,368,489	267,039,819	283,569,369	525,466,498	525,282,269
Depreciation	230,954,534	206,874,610	89,713,848	81,588,173	51,880,235	45,878,965	89,360,451	79,407,472
Retirements	*576,455	*886,828	*113,772	*111,710	*146,726	*239,520	*315,957	*535,598
Deferred maintenance and major repairs	*1,182,038	*2,988,010	*624,049	47,000	*217,375	*1,107,454	*340,614	*1,927,556
Amortization of defense projects	12,157,256	12,277,647	4,470,974	4,492,662	2,387,170	2,389,422	5,299,112	5,395,563
Equalization	2,048,025	1,308,153	1,475,136	353,916	726,142	906,942	*153,253	47,295
All other	1,098,084,187	1,187,634,555	454,057,055	508,998,448	212,410,373	235,741,014	431,616,759	442,895,093
Traffic	161,941,270	159,464,601	55,390,915	54,662,535	34,169,901	34,701,366	72,380,454	70,100,700
Transportation—Rail line	2,850,594,043	3,161,221,992	1,202,687,206	1,338,934,566	517,532,235	584,161,926	1,130,374,602	1,238,125,500
Miscellaneous operations	99,440,103	109,810,816	36,703,763	41,616,209	14,568,087	16,222,162	48,168,253	51,972,445
General	227,281,218	224,539,373	88,228,269	85,557,554	48,776,400	48,982,418	90,276,549	89,999,401
Railway operating expenses	5,774,410,118	6,185,340,861	2,317,786,558	2,536,462,525	1,105,984,164	1,202,098,430	2,350,639,396	2,446,779,906
Net revenue from railway operations	1,382,647,769	1,854,355,636	463,202,714	642,486,733	273,028,313	381,934,787	646,416,742	829,934,116
Railway tax accruals	701,260,353	856,620,934	235,475,333	291,497,641	148,451,490	192,405,631	317,333,530	372,717,662
Pay-roll taxes	212,287,200	221,084,002	87,024,331	91,863,795	40,505,512	43,409,500	84,757,357	85,810,707
Federal income taxes†	222,408,313	373,313,451	51,683,536	99,656,018	52,020,511	94,395,202	118,704,266	179,262,231
All other taxes	266,564,840	262,223,481	96,767,466	99,977,828	55,925,467	54,600,929	113,871,907	107,644,724
Railway operating income	681,387,416	997,734,702	227,727,381	350,989,092	124,576,823	189,529,156	329,083,212	457,216,454
Equipment rents—Dr. balance	107,830,798	111,983,623	46,326,776	50,292,858	*5,992,110	*13,670,288	67,496,132	75,361,053
Joint facility rent—Dr. balance	31,949,931	32,126,410	15,465,219	15,451,362	4,891,561	4,621,929	11,593,151	12,053,119
Net railway operating income	541,606,687	853,624,669	165,935,386	285,244,872	125,677,372	198,577,515	249,993,929	369,802,282
Ratio of expenses to revenues (per cent)	80.7	76.9	83.3	79.8	80.2	75.9	78.4	74.7

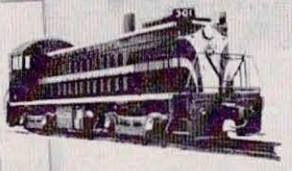
†Includes income tax and surtax.
*Decrease, deficit, or other reverse items.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

1949 in Review

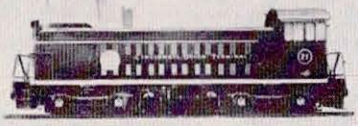
180-TON
Delivery to start
first quarter 1950

120-TON
Delivery to start
January 1950

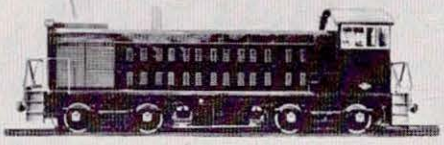
125-TON
Delivery completed
December 1949

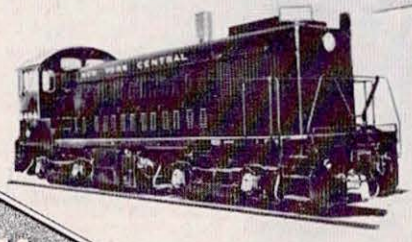


110-TON
Delivery completed
November 1949



120-TON
Delivery completed
June 1949

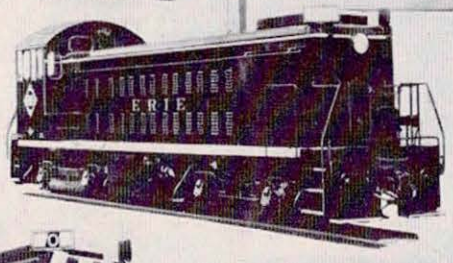




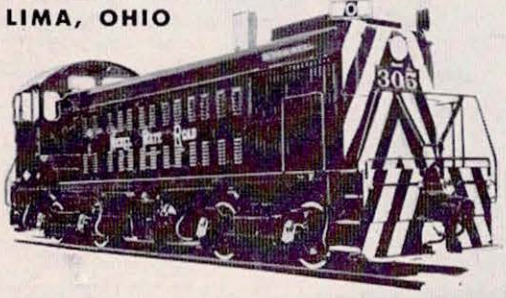
120-TON
Delivery completed
September 1949

LIMA HAMILTON CORPORATION

LIMA LOCOMOTIVE WORKS
A division of Lima-Hamilton Corporation
LIMA, OHIO



120-TON
Delivery completed
October 1949



NICKEL PLATE ROAD

120-TON
Delivery completed
July 1949

GENERAL NEWS

(*Continued from page 48*)

New Rate Hearings Scheduled in Canada

The Canadian Board of Transport Commissioners announced late last week that it would open new hearings in February on the application of Canadian railroads for a 20 per cent increase in freight rates.

The board's announcement followed the unanimous decision of the Supreme Court of Canada that the board had "failed to perform its duty" by defering action last September on the requested 20 per cent increase pending completion of general transportation inquiries now being conducted by a Royal Commission on Transportation and by the board itself. The court's decision, delivered December 22 and reported in the *Railway Age* of December 24, came on an appeal by the Canadian Pacific. The bord's deferment of final action, the court said, constituted an "injustice" to the railways, even though an 8 per cent interim rate increase was authorized.

Texas & Pacific Testing Radio

The Texas & Pacific, to study benefits of train communication, has equipped one Diesel-electric locomotive and one caboose, currently in road freight service between Fort Worth, Tex., and El Paso, 615 mi., with end-to-end and "walkie-talkie" radio apparatus. On one recent test run, Conductor W. F. Haworth, Sr., and Engineman H. R. Parker tried out the radio for the first time in their railroad careers. Said Parker: "I've been railroading 37 years, and this makes a whale of a difference in running your train; I like it."

The experiments, due to be completed January 15, 1950, have been conducted under supervision of W. A. Roberts, superintendent of telegraph for the railroad, through a special permit issued by the Federal Communications Commission. The test equipment was furnished by the Bendix Radio Division.

Shippers Support Rio Grande Plea to Open Ogden Gateway

Numerous shipper witnesses appeared at recent hearings before Interstate Commerce Commission Examiner F. E. Mullen at Salt Lake City, Utah, and gave support to voluminous exhibits of the Denver & Rio Grande Western, which is seeking to have the Union Pacific open the Ogden (Utah) gateway (see *Railway Age* of December 17, page 68). In the proceeding, docketed as No. 30297, the Rio Grande is asking that the U. P. be made to participate in joint through rates via the gateway on traffic between so-called Colorado common points or points east thereof, and points in Idaho, Montana, Oregon, Washington and British Columbia. Upon completion on December 16 of the Rio Grande's direct testimony in the case, the hearing was adjourned until February 15, at which time the U. P. will present its defense.

Shippers and their representatives from throughout the Pacific Northwest and Rocky Mountain area said they were being "penalized" by having to pay a combination of local rates rather than the through rate, and that the lack of transit privileges was hurting their businesses. Many said they could do more business should the competitive rate be established and they be permitted to ship into Colorado, thence to Utah and into Idaho and the Northwest while being allowed to partially unload cars, reconsign or process enroute.

Much of the Rio Grande's case is based upon a 274-page exhibit of Thomas K. Earley, assistant freight traffic manager, who contends that the U. P. is pursuing toward the Rio Grande a "hardboiled" attitude which is not applied to other carriers. He said, for example, that on shipments from Portland, Ore., to St. Louis, Mo., the defendant joins in through rates with other lines, giving the U. P. a haul of only 368 miles out of a total of 2464 miles. If the U. P. would establish through rates with the Rio Grande on shipments between these points it would get a haul of 849 miles and the Rio Grande 663 miles, declared Mr. Earley. He cited numerous examples intended to show that lack of transit privileges via Rio Grande operates to the disadvantage of shippers and deprives the latter road of unknown volumes of traffic.

The U. P. is expected to base its defense on the contention that it is entitled to the long haul to and from the territory which it has developed and built up over the past 40 years; that shippers enjoy adequate transportation facilities and are not placed at a competitive disadvantage; that action of the Rio Grande is an attempt to invade territory now adequately served; and that existing rate arrangements violate neither the Interstate Commerce Act or the national transportation policy.

To Cut Coach Fares 28 Per Cent Between Seattle and Portland

Effective January 25, rail coach fares between Seattle, Wash., Tacoma and Portland, Ore., will be reduced by 28 per cent. The Great Northern, Northern Pacific and Union Pacific, joint operators of the passenger service between these cities, announced that the lower fares will apply at all stations on the line.

The new Seattle-Portland fare will be $3.30 one way (before federal tax) and $5.95 round trip—same as the bus fare—as compared with the regular fare of $4.58 and $8.25, respectively. Airline fares (excluding tax) are $8.35 one way and $15.90 round trip.

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WHITE Switch Heaters

lowest in initial price;
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highest in popularity.

Automatic Control for Remote Switches

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ELKHART INDIANA

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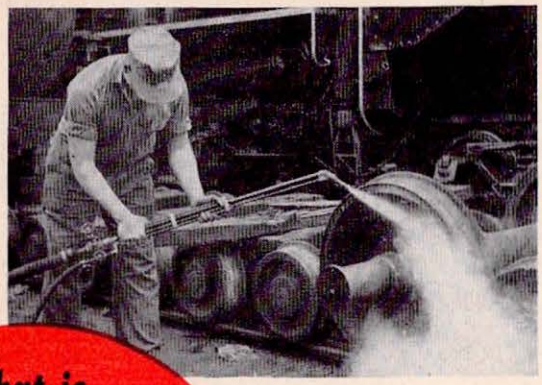

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Your Best Answer

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In Canada: Oakite Products of Canada, Ltd. 65 Front St. East, Toronto, Ont.

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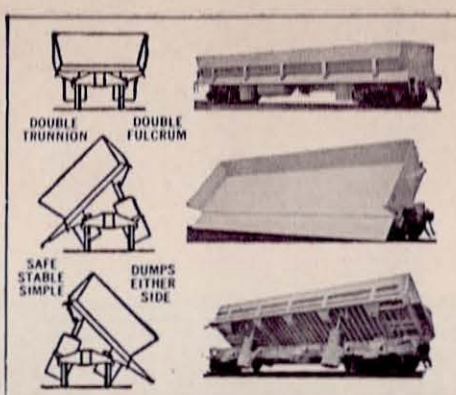

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LOCOMOTIVES
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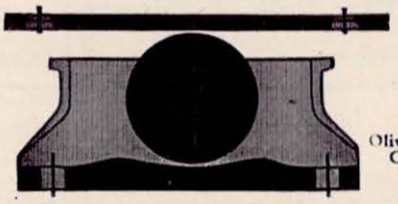

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2— 8-Ton, 0-4-0, Diesel-Mechanical, Whitcomb
1—12-Ton, 0-4-0, Diesel-Mechanical, Plymouth
1—10-Ton, 0-4-0, Diesel-Electric, Davenport
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In each there will be more than 30 first prizes and certificates of merit.

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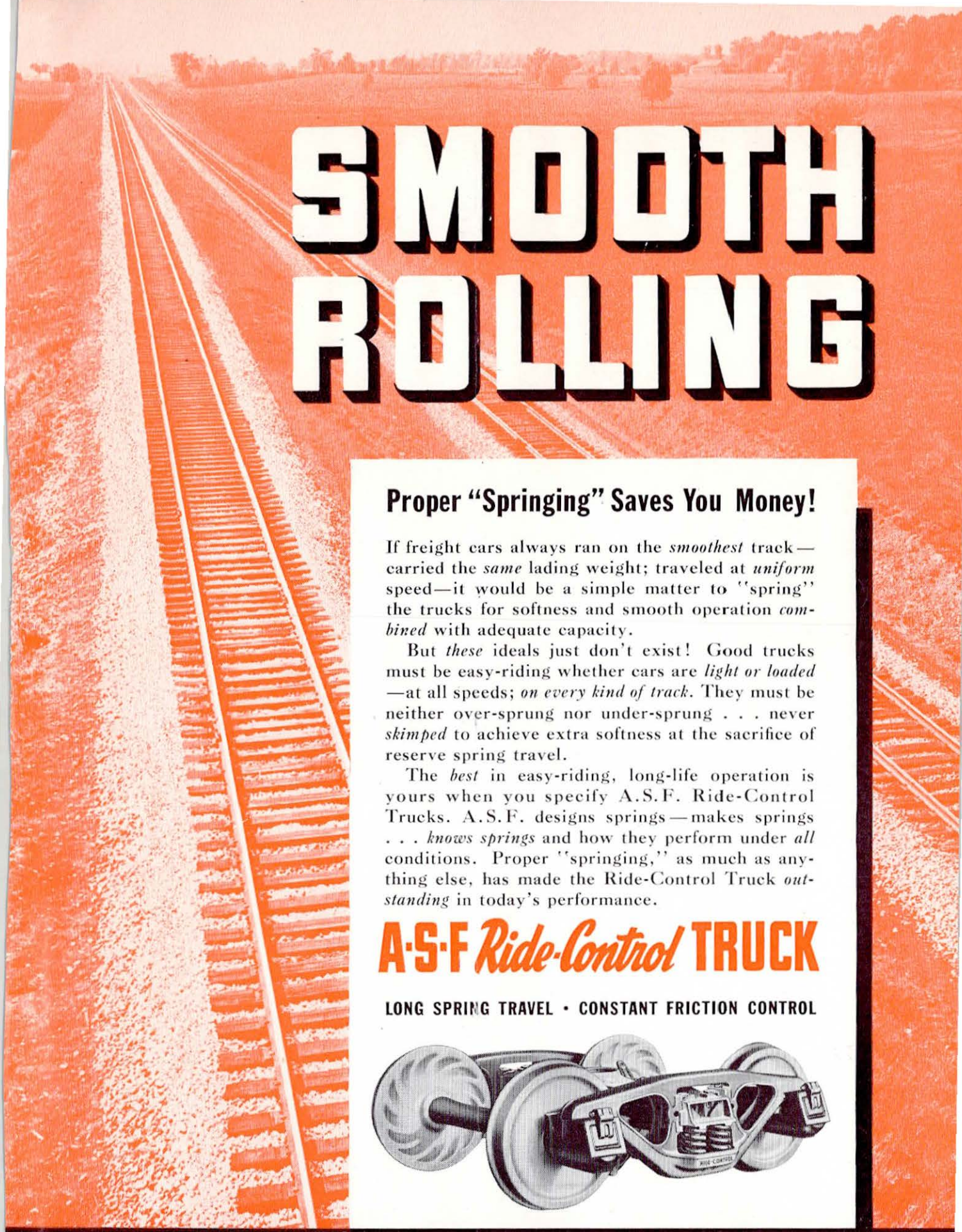
In the past several *Railway Age* advertisers have been among the prize winners and, judging from appearances, many will stand a good chance on this occasion—IF THEY ARE ENTERED.

Closing date for entries will be midnight, January 31. Write to the Associated Business Publications, 205 East 42nd St., New York 17, N. Y. for further details.



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If freight cars always ran on the *smoothest* track—carried the *same* lading weight; traveled at *uniform* speed—it would be a simple matter to "spring" the trucks for softness and smooth operation *combined* with adequate capacity.

But *these* ideals just don't exist! Good trucks must be easy-riding whether cars are *light or loaded* —at all speeds; *on every kind of track*. They must be neither over-sprung nor under-sprung . . . never *skimped* to achieve extra softness at the sacrifice of reserve spring travel.

The *best* in easy-riding, long-life operation is yours when you specify A.S.F. Ride-Control Trucks. A.S.F. designs springs—makes springs . . . *knows springs* and how they perform under *all* conditions. Proper "springing," as much as anything else, has made the Ride-Control Truck *outstanding* in today's performance.

A-S-F *Ride-Control* TRUCK

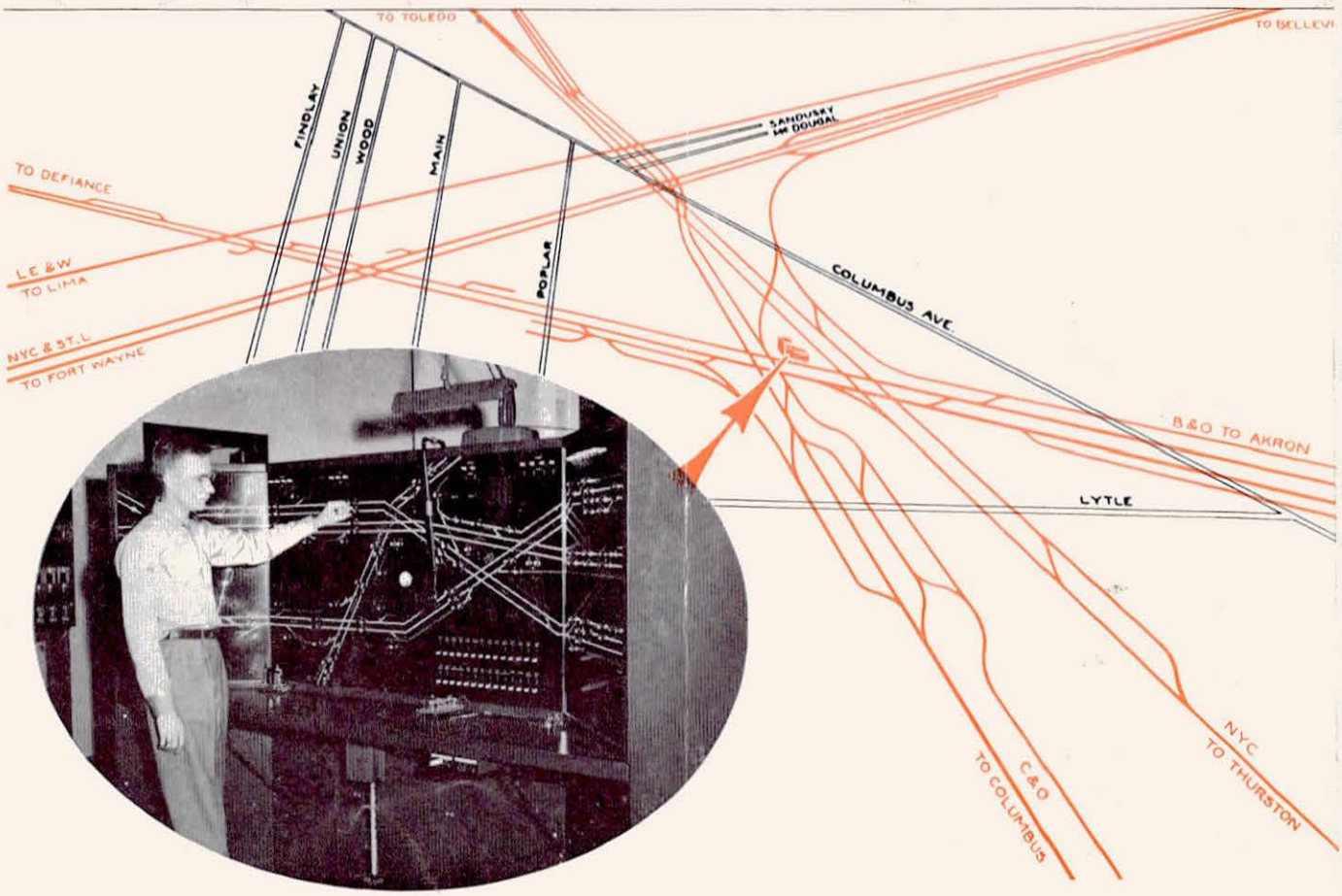
LONG SPRING TRAVEL • CONSTANT FRICTION CONTROL

AMERICAN STEEL FOUNDRIES

MINT MARK OF ⬡ FINE CAST STEEL

NX INTERLOCKING at Fostori Ohio,

expedites rail and highway traffi



Five railroads crisscross Fostoria and intersect busy highways. Before NX, rail traffic was directed by dispatchers at three locations remote from one another.

Tie-ups occurred, snarling rail and highway traffic.

Today control is consolidated in one G-R-S NX (eNtrance-eXit) interlocking machine. The operator presses entrance knobs and exit buttons to line up routes quickly and accurately.

Now trains move through Fostoria with very interference and scarcely any stops. Highway blocked for much shorter periods, chiefly by numerous switching moves. Automatic gates lights protect the crossings.

Through traffic daily is 32 passenger and a 130 freight.

Your G-R-S district office will gladly furnish you data and estimates on NX.

GRS

GENERAL RAILWAY SIGNAL COMPANY

New York 17 Chicago 3 ROCHESTER 2, N.Y. St. Louis 1 A-2407